Standalone DVR User’s Manual

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Welcome

Thank you for purchasing our DVR!
This operating manual is designed to be a reference tool for the installation and operation of your system.
Here you can find information about this series DVR features and functions, as well as a detailed menu tree.
Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to local electrical safety codes.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Keep upwards. Handle with care.
Do not apply power to the DVR before completing installation.
Do not place objects on the DVR

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are nor liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

The DVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components listed below are included:

- One power cable
- One Ethernet cable
- Four HDD cables
- Alarm & relay terminal blocks
- Extensional cable(for audio, loop & matrix)
- One remote control(including the battery)
- One USB mouse
- One CD(including DVR manual, client & small tools)
- Warranty card
- A package of installation fittings

Contact your local retailer ASAP if something is missing in your package.

Note: Any changes of this manual made to the actual product are subjects to no further notification.

1 FEATURES AND SPECIFICATIONS

1.1 Features

This series DVR has the following features:

- H.264 compression algorithm ideal for standalone DVR
- Realtime live display up to 16 cameras, 400/480 fps recording for CIF, 2CIF& 200/240 fps recording for 4CIF
- Pentaplex function: live, recording, playback, backup & remote access
- Dual encoding streams support, flexible for network transmission
- Intelligent search and playback support, you can play back the video only motion detection occurs in the area you selected.
- 8 HDDs supported & CD-RW/DVD-RW supported
- Multiple control methods: front panel, IR remote controller, DAHUA keyboard, USB mouse and network keyboard.
- Smart video detection: motion detection, camera blank, video loss.
- Smart camera settings: privacy masking, camera lock, color setting, and title display
- Pan Tilt Zoom and Speed Dome Control: more than 60 protocols supported, preset, scan, auto pan, auto tour, pattern, auxiliary function supported. And with Dahua Speed Dome, 3D intelligent positioning function supported.
- 16 channel audio inputs and cross talk supported
- Easy backup methods: USB devices, CD-RW/DVD-RW & network download
- Alarm triggering screen tips, buzzer, PTZ preset, e-mail, FTP upload.
- Smart HDDs Management: non-working HDD hibernation, HDD faulty alarm, Raid function.
- Powerful network software: built-in web server, multi-DVR client & CMS. Networking access for remote live viewing, recording, playback, setting, system status, event log, e-mail & ftp function.
-

1.2 Specifications

Model

DH-DVR0404/0804/1604GBE	4/8/16 channel audio/video basic model
DH-DVR0404/0804/1604GBEL	4/8/16 channel loop and matrix combination model
DH-DVR0404/0804/1604GBEH	4/8/16 channel loop matrix and audio/video model

System

Main Processor	High performance embedded microprocessor
Operating System	Embedded LINUX
System Resources	Pentaplex function: live, recording, playback, backup & remote access
User Interface	GUI, on-screen menu tips.
Control Device	Front panel, USB mouse, DAHUA keyboard, IR remote control, network keyboard,.
Input Method	Numeral/Character/Denotation
System Status	HDD status, data stream statistics, log record, bios

version, on-line user etc.

Video

Video Input	4/8/16 Channel, BNC, 1.0Vp-p, 75Ω, looping(optional), matrix output
Video Output	2 channel TV output BNC, 1.0Vp- p, 75Ω,1 VGA output
Video Standards	PAL（625Line，50f/s），NTSC（525Line，60f/s）
Video Compression	H.264

Video Resolution

Format	NTSC	PAL
D1(4CIF)	704 * 480	704 * 576
2CIF	704 *240	704 * 288
CIF	352* 240	352*288
QCIF	176*120	176*144

Video Recording	D1/2CIF/CIF/QCIF: PAL 1f/s-25f/s NTSC 1f/s-30f/s；
Video Display Split	Full and multiple screen display, 1 / 4 / 8 / 9 / 16
Tour Display	Support
Image Quality	1~6 level(level 6 is the best)
Privacy Masking	Self-defined four-sided zone for privacy masking for each camera
Camera Lock	Camera locked for users
Camera Adjustment	Adjust color according to different time period
Video Information	Camera title, time, video loss, camera lock, motion detection, recording
TV Output Adjustment	Adjust TV output color & display zone

Audio

Audio Input	4/8/16 channel, BNC, 200-2800mV, 30KΩ
bidirectional Audio Input	1 channel, BNC, 200-2800mV, 30KΩ
Audio Output	1 channel, BNC, 200-3000mv, 5KΩ
Audio Compression	ADPCM

Video Detection & Alarm

Motion Detection	Zones: 192 (16*12) detection zones Sensitivity: 1~6 (level 6 is highest) Trigger recording, PTZ movement, tour, alarm, e-mail & FTP
Video Loss	Trigger recording, PTZ movement, tour, alarm, e-mail & FTP
Camera masking	Trigger recording, PTZ movement, tour, alarm, e-mail & FTP
Alarm Input	4/8/16 channel, programmable, ground, manual open/closed Trigger recording, PTZ movement, tour, alarm, e-mail & FTP
Relay output	6 channel, 30VDC, 1A, NO/NC, form-C,

Hard Disk

Hard Disk	4 IDE ports, 8 HDDs supported.
Space Occupation	Audio ：14.4MB/H Video ：56～400MB/H
HDD Management	Hard disk hibernation technology, HDD faulty alarm & Raid (Redundancy)

Record, Playback & Backup

Recording Mode	Manual, continuous, video detection (including motion detection, camera masking, video loss), Alarm
Recording Priority	Manual >Alarm >Video Detection >Continuous.
Recording Interval	1 to 120 minutes (default: 60 minutes)
Overwrite Mode	Support
Raid Function	Support
Search Mode	Time/Date, Alarm, Motion Detection & exact search (accurate to second)
Playback	1 channel playback simultaneously, Play, pause, stop, rewind, fast play, slow play, next file, previous file, next camera, previous camera, full screen, repeat, shuffle, backup selection.
Digital Zoom	Selected zone can zoom into full screen during playback
Backup Mode	Flash stick/ USB HDD/ USB CD-RW/DVD-RW/ built-in IDE Burner/ network download

Network

Interface	RJ-45 Port (10/100M)
Network Functions	TCP/IP, DHCP, DDNS, PPPOE, E-mail, FTP
Remote operation	Monitor, PTZ control, playback, system setting, file download, log information

Auxiliary Interface

USB Interface	2 ports, 1 for mouse control, 1 for backup.
RS232	DAHUA keyboard, PC communication
RS485	PTZ control

Environmental

Power Supply	220V 50Hz / 110V 60Hz
Power Consumption	25W/30W/40W
Working Temperature	0℃~ + 55℃
Power Consumption	25W/30W/40W
Working Humidity	10%~90%
Atmosphere Pressure	86kpa~106kpa
Dimension	2U, 440mmx460mmx89mm (W*D*H)
Weight	7.0KG
Mounting	Desktop or rack

Note: Comparisons

Model	DVR1604GBE	DVR1604GBEL	DVR1604GBEH

Audio Input	16 channel	No	4 channel
Loop Output	NO	16 channel	16 channel
Matrix Output	NO	4 channel	1 channel
Bidirectional-Audio Input	1 channel	1 channel	1 channel

2 Overview and Controls

This section provides information about front panel and rear panel. When you install this series DVR for the first time, please refer to this part first.

2.1 Front Panel

This series DVR has two different front panels. You can refer to Figure 2-1 and Figure 2-2.

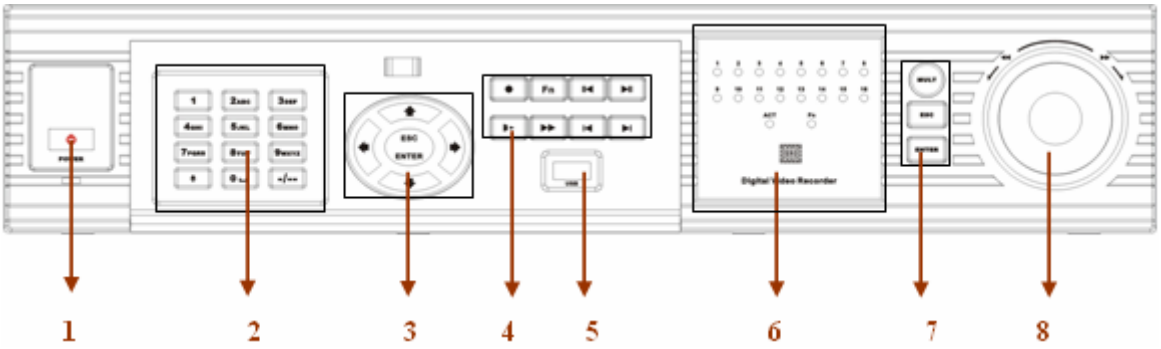


Figure 2-1

S/N	Name	Icon	Function
1	Power button	POWER	Power button, press this button for three seconds to shut down DVR.
	Power indication light		Power indication light
2	Shift	↑	In preview interface(no other menu), press this button for three seconds, can switch between TV/VGA output(HD1 series DVR has three modesLTV/VGA/60Hz LCD)
			In textbox, click this button to switch between numeral, English(Small/Capitalized),donation, Chinese and etc.
			Open/close tour
	numeral keys 0-9	0-9	Input password, switch channel and input numeral.
	Input numeral more than10	-/--	When you need to input numeral more than 9. You can follow the steps below, click the first key number and then the next. For example, input 123, click numeral 1 and then 2 and click 3(continuously).
3	Up/down	▲、▼	Activate current control, modify setup, increase/decrease numeral, assistant function such as PTZ menu.
	Left/right	◄、►	shift current activated control, When playback, click these buttons to control playback bar.
	ESC	ESC	Close upper interface or controls.
	Enter	ENTER	confirm operation

			Go to default button
			Go to main menu
4	Record	●	Manually stop/start recording, working with direction keys or numeral keys,
	Slow play	▮▸	Multiple slow play speeds or normal playback
	Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color. In PTZ menu, shift PTZ control menu.
			Backspace function: in numeral control or text control, it can delete the previous character before the cursor.
			In motion detection setup, working with Fn and direction keys to realize setup.
			In HDD information menu, switch between HDD record time or other information(Menu prompt)
			Realize other special functions
	Fast play	▸▸	Various fast speeds and normal playback.
	Play previous	◂❙	In playback mode, playback the previous video In menu setup, go to upper ward of the dropdown list.
	Reverse/Pause	⏸◀	In normal playback or pause mode, click this button to reverse playback In reverse playback, click this button to pause playback.
	Play Next	▸❙	In playback mode, playback the next video In menu setup, go to down ward of the dropdown list.
	Play/Pause	▶⏸	Reverse playback or paused mode, click this button to realize normal playback In normal playback click this button to pause playback In pause mode, click this button to resume playback
			In real-time monitor mode, click this button to enter video search menu.
5	USB port		To connect USB storage device, USB mouse or USB CD-ROM
6	Channel indication light		When DVR is recording this lamp turns on.
	Standby indication light		When DVR is standing by, this lamp turns on.
	Remote control signal receiver		To receive signals from remote control

	Function indication light		
7	Window switch	MULT	Switch between one-window and multiple-window display modes.
	Enter	ENTER	confirm current operation
			go to default button
			Go to main menu
	Cancel	ESC	Close upper interface or controls.
8	Shuttle(outer ring)		In real-time monitor mode it works as left/right direction key. Playback mode, counter clockwise to forward and clock wise to backward
	Jog(inner dial)		Up/down direction key. Playback mode, turn the inner dial to realized frame by frame playback. (only applies to some version.)

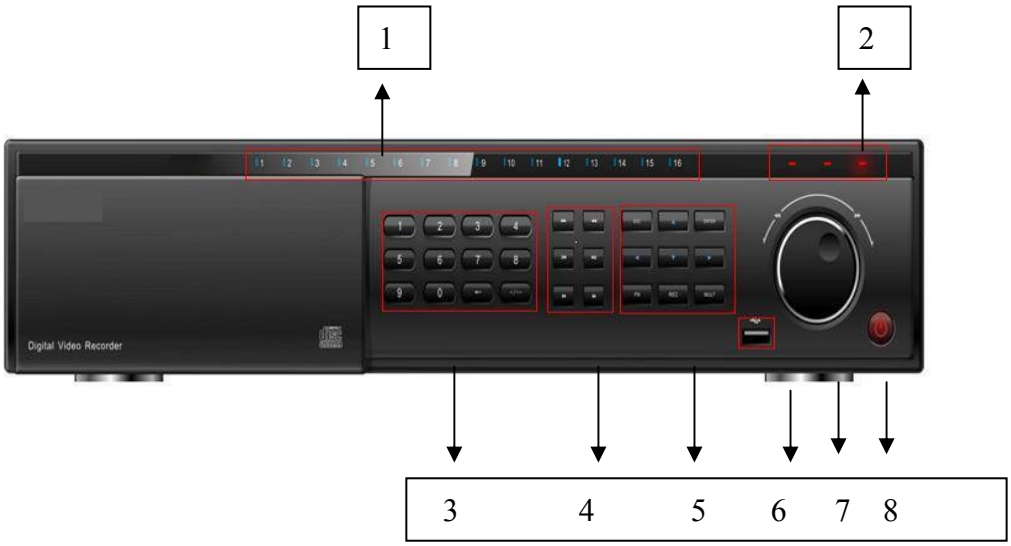


Figure 2-2

S/N	Name	Icon	Function
1	Channel indication light		When DVR is recording this lamp turns on. Power button, press this button for three seconds to shut down DVR.
2	Standby indication light		When DVR is standing by, this lamp turns on.
	Remote control signal receiver		To receive signals from remote control
	Function indication light		
3	Shift	←	In preview interface(no other menu), press this button for three seconds, can switch between TV/VGA output(HD1 series DVR has three modesLTV/VGA/60Hz LCD)

			In textbox, click this button to switch between numeral, English(Small/Capitalized),donation, Chinese and etc.
			Open/close tour
	numeral keys 0-9	0-9	Input password, switch channel and input numeral.
	Input numeral more than10	-/--	When you need to input numeral more than 9. You can follow the steps below: click the first key number and then the next. For example, input 123, click numeral 1 and then 2 and click 3(continuously).
4	Slow play	▮▸	Multiple slow play speeds or normal playback
	Fast play	▸▸	Various fast speeds and normal playback.
	Play previous	◂▮	In playback mode, playback the previous video In menu setup, go to upper ward of the dropdown list.
	Reverse/Pause	⏸◀	In normal playback or pause mode, click this button to reverse playback In reverse playback, click this button to pause playback.
	Play Next	▸▮	In playback mode, playback the next video In menu setup, go to down ward of the dropdown list.
	Play/Pause	▶⏸	Reverse playback or paused mode, click this button to realize normal playback In normal playback click this button to pause playback In pause mode, click this button to resume playback
			In real-time monitor mode, click this button to enter video search menu
5	Up/down	▲、▼	Activate current control, modify setup, increase/decrease numeral, assistant function such as PTZ menu.
	Left/right	◀、▶	shift current activated control, When playback, click these buttons to control playback bar.
	Cancel	ESC	Close upper interface or controls.
	Enter	ENTER	confirm operation
			Go to default button
			Go to main menu
	Record	●	Manually stop/start recording, working with direction keys or numeral keys.
	Window switch	MULT	Switch between one-window and multiple-window display modes.
	Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color. In PTZ menu, shift PTZ control menu.

			Backspace function: in numeral control or text control, it can delete the previous character before the cursor.
			In motion detection setup, working with Fn and direction keys to realize setup.
			In HDD information menu, switch between HDD record time or other information(Menu prompt)
			Realize other special functions
6	USB port		. To connect USB storage device, USB mouse or USB CD-ROM
7	Shuttle(outer ring)		In real-time monitor mode it works as left/right direction key. Playback mode, counter clockwise to forward and clock wise to backward
	Jog(inner dial)		Up/down direction key. Playback mode, turn the inner dial to realized frame by frame playback. (only applies to some version.)
8	Power button	POWER	Power button, press this button for three seconds to shut down DVR.
	Power indication light		Power indication light

Note:

Turn shuttle (outer ring) clockwise stands for right, counter clockwise stands for left.

Turn jog (Inner dial) clockwise stands for down, counter clockwise stands for up.

2.2 Rear Panel

2.2.1 Overview

Please refer to Figure 2-3 for real panel information.

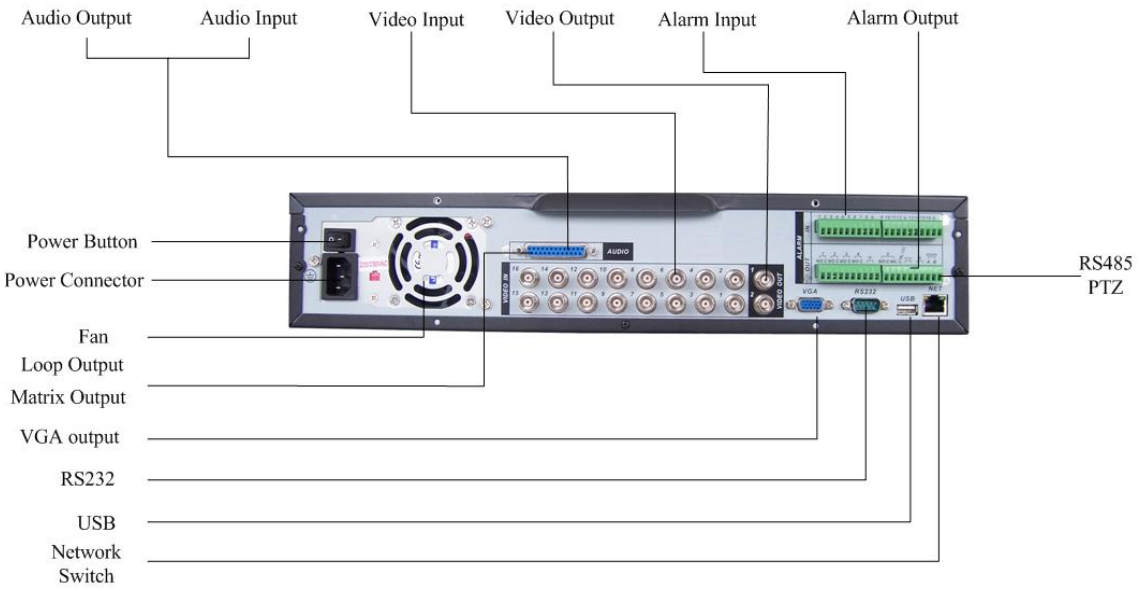


Figure 2-3

2.2.2 Connection Sample

Here is a connection sample for your reference. See Figure 2-4.

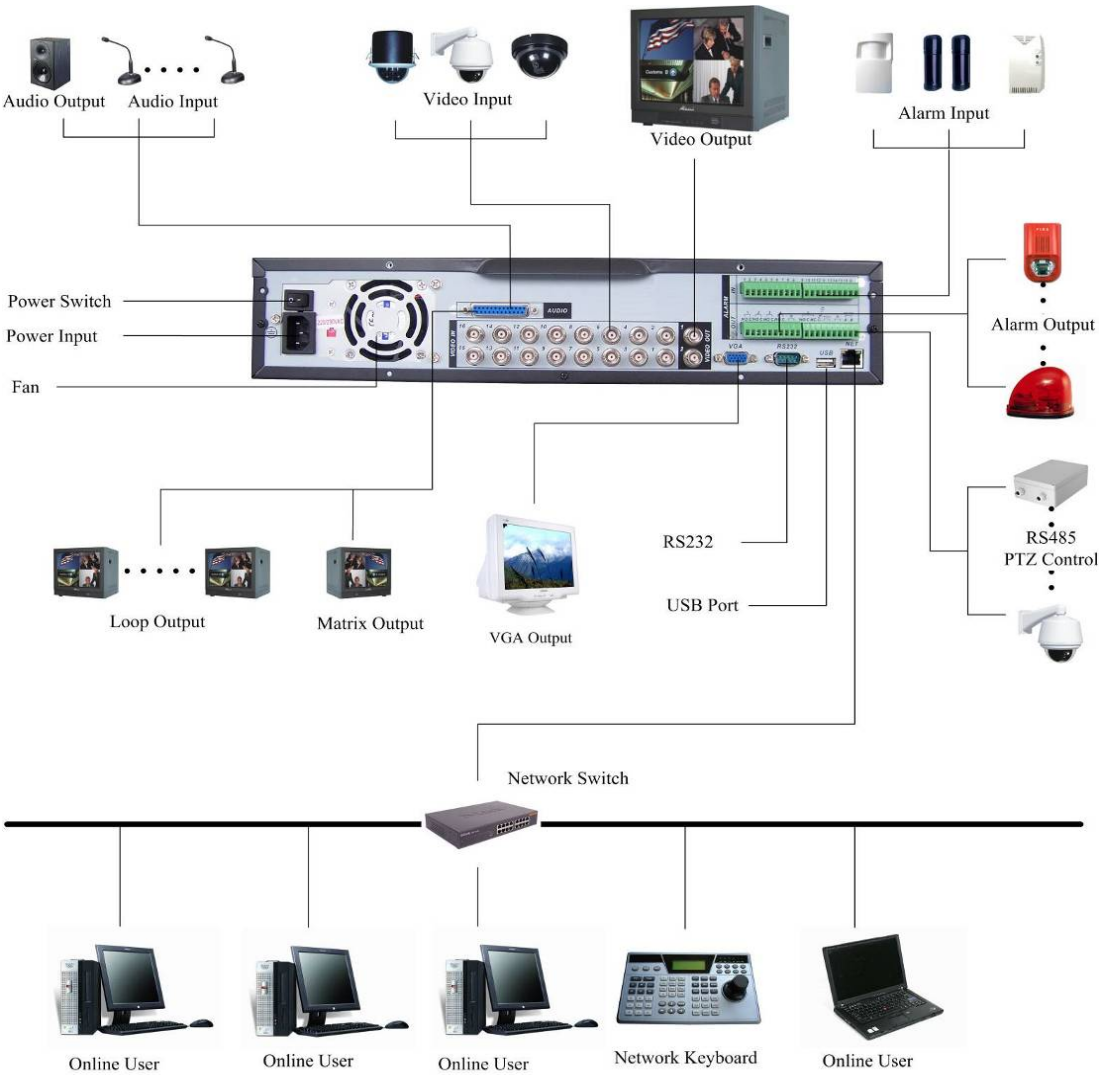


Figure 2-4

Note: 25-pin or 37-pin interface

Model	DH-DVR1604GBE	DH-DVR1604GBEL	DH-DVR1604GBEH
Audio Input	16 channel	No	4 channel
Loop Output	NO	16 channel	16 channel
Matrix Output	NO	4 channel	1 channel
Bidirectional-Audio Input	1 channel	1 channel	1 channel

2.3 Remote Control

The remote control interface is shown as in Figure 2-5.

Serial Number	Function
1	remote switch
2	Multiple-window switch
3	0-9 number key
4	Record
5	Auxiliary key
6	Confirm /menu key
7	Cancel
8	Direction key
9	forward
10	Previous
11	Back
12	Next
13	Slow play
14	Stop
15	Fast play
16	Play/Pause

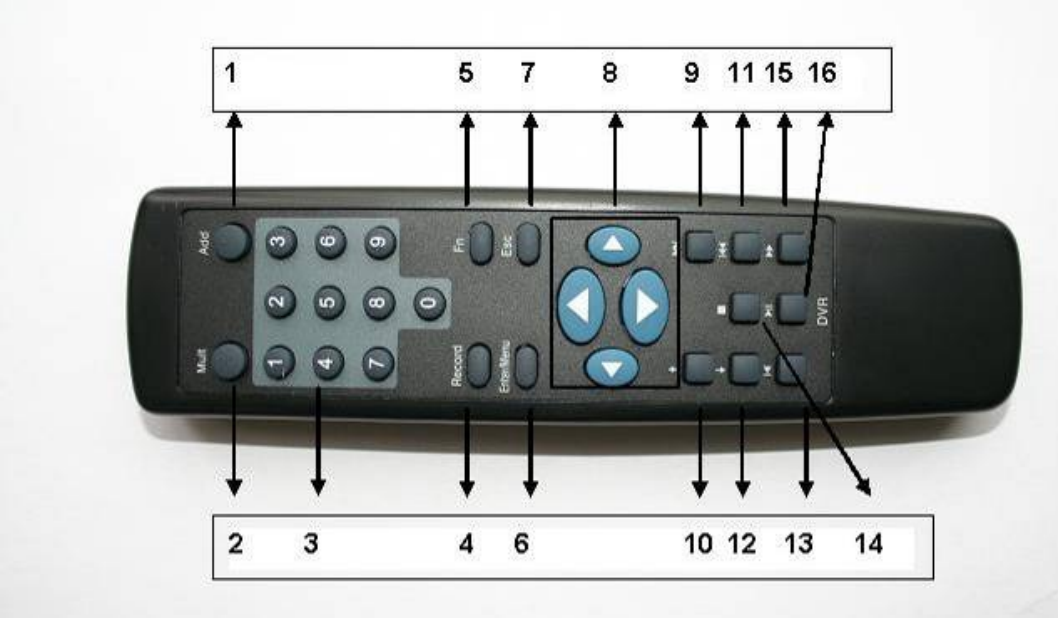


Figure 2-5

Serial Number	Function
1	remote switch
2	Multiple-window switch
3	0-9 number key
4	Record
5	Auxiliary key
6	Confirm /menu key
7	Cancel
8	Direction key
9	forward
10	Previous
11	Back
12	Next
13	Slow play
14	Stop
15	Fast play
16	Play/Pause

2.4 Mouse Control

Left click mouse	System pops up password input dialogue box if you have not logged in. In real-time monitor mode, you can go to the main menu.
	When you have selected one menu item, left click mouse to view menu content.
	Implement the control operation.
	Modify checkbox or motion detection status.
	Click combo box to pop up drop down list

	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character In English input mode: ← stands for deleting the previous character. In numeral input mode: ← stands for deleting the previous numeral. When input special sign, you can click corresponding numeral in the front panel to input. For example, click numeral 1 you can input"/" , or you can click the numeral in the on-screen keyboard directly.
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu: one-window, four-window, nine-window and sixteen-window, Pan/Tilt/Zoom, color setting, search, record, alarm input, alarm output, main menu. Among which, Pan/Tilt/Zoom and color setting applies for current selected channel. If you are in multiple-window mode, system automatically switches to the corresponding channel.
	Exit current menu without saving the modification.
Press	In numeral input box: Increase or decrease numeral value.

middle button	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone
	Select privacy mask zone.

2.5 Virtual Keyboard & Front Panel

2.5.1 Virtual Keyboard

The system supports two input methods: numeral input and English character (small and capitalized) input.

Move the cursor to the text column, the text is shown as blue, input button pops up on the right. Click that button to switch between numeral input and English input (capitalized and small), Use > or < to shift between small character and capitalized character.

2.5.2 Front Panel

Move the cursor to the text column. Click Fn key and use direction keys to select number you wanted. Please click enter button to input.

3 Installation and Connections

Note: All the installation and operations here should conform to your local electric safety rules.

3.1 Check Unpacked DVR

When you receive the DVR from the shipping agency, please check whether there is any visible damage to the DVR appearance. The protective materials used for the package of the DVR can protect most accidental clashes during transportation. Then you can open the box to check the accessories.
Please check the items in accordance with the list on the warranty card. Finally you can remove the protective film of the DVR.

3.2 HDD Installation

3.2.1 Choose HDDs

We recommend Seagate HDD of 7200rpm or higher.

3.2.2 Calculate HDD Size

This series have no limit to HDD capacity. You can use 120G-750G HDD to guarantee higher stability.
The formula of total HDD size is:
Total Capacity (MB) = Camera Amount * Recording Hours * HDD Usage Per Hour (M/h)
H.264 compression is ideal for standalone DVRs. It can save more than 30% HDD capacity than MPEG4. When you calculate the total HD capacity, you should estimate the average HDD capacity per hour for each channel.
For example, for a 4-ch DVR, the average capacity of HDD usage per hour per channel is 200M/h. Now if you hope the DVR can record the video 12 hours each day for 30 days, the total capacity of HDDs needed is: 4 channels * 30 days * 12 hours * 200 M/h = 288G. So you need to install one 300G HDD or 2 160G HDDs.

3.2.3 HDD Installation

Data ribbons, fastening screws and smart HDD shelf design are already provided in the accessories.
Notes: please pay attention to HDD jumper:

- If you just need to install one HDD, you can set the HDD to MASTER.
- If you install two HDDs to one IDE port, you need to set the farther one as MASTER and the other as SLAVE. Please don't set HDD as CS Enable or Cap Limit.

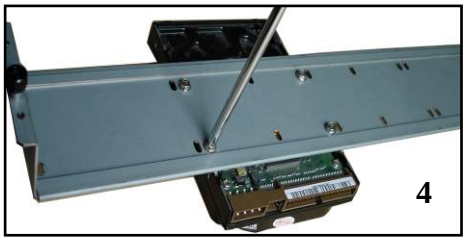
Please follow the instructions below to install hard disk.

1

2

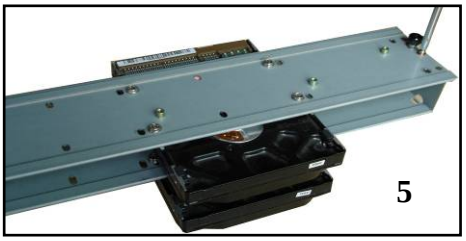
1. Remove the upper cover of the DVR

2. Remove the HDD bracket from internal unit

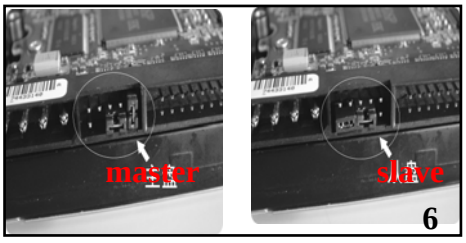


3. Dismantle the upper HDD bracket

4. Install the HDD. Note the HDD is placed upside down. Please make sure bracket is in correct position.



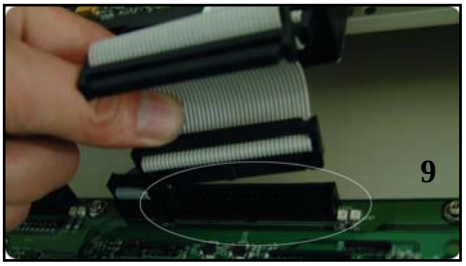
5. Screw the two bracket parts together

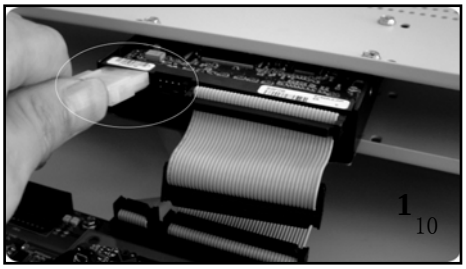


6. Set master/slave on the HDD

7. Fix the HDD bracket into the internal unit

8. Loosen the power cords for the HDD

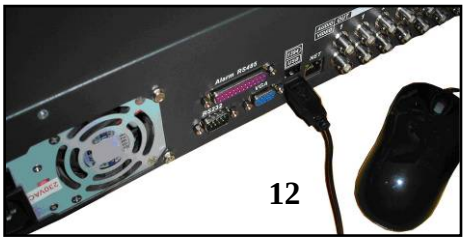




9. Connect the HDD with IDE port through data communication cable

10. Connect power cord to the HDD.

11. Place the upper cover back and screw firmly



12. Connect USB devices (USB mouse, USB

portable hard drive, USB CD-RW) to the USB port directly

After HDD installation, please check connection of data ribbon and power cord.

3.3 CD/DVD Burner Installation

For built-in burner, you can dismantle front plate to install CD burner. This built-in burner should be set as MASTER.
For USB burners, you need to install USB series burner.
This series DVR is compatible with various burner brands popular in today's market. You can consult our local technical support or visit our website for more information.

3.4 Desktop and Rack Mounting

3.4.1 Desktop Mounting

To prevent surface damage, please make sure that the rubber feet are securely installed on the four corners of the bottom of the unit.
Position the unit to allow for cable and power cord clearance at the rear of the unit.
Be sure that the air flow around the unit is not obstructed.

3.4.2 Rack Mounting

The DVR occupies two rack units of vertical rack space.
The hardware necessary to mount the DVR into a rack is supplied with the unit.
Rear doors may be used only on rack columns that are more than 26 inches (66.0 cm) deep.
Install the cabinet in ventilated place. Avoid extreme heat, humid or dusty conditions.
You can use a soft dry brush to clean opening outlet, cooling fan and etc regularly.

3.5 Connecting Power Supply

Please check input voltage and device power button match or not.
We recommend you use UPS to guarantee steady operation, DVR life span, and other peripheral equipments operation such as cameras.

3.6 Connecting Video Input and Output Devices

3.6.1 Connecting Video Input

The DVR automatically detects the video standard (PAL or NTSC) whenever you connect a video input. It accepts both color and black-and-white and analog video.
NOTE:

- Enabling line lock on cameras may cause video distortion. There may be noise in the camera's power source. If video from one or more cameras is distorted, we recommend you disable line lock on the camera as your first troubleshooting step.
- If a video distribution amplifier is installed between the video source and the DVR, do not set the output video level above 1 Vp-p.

To connect each video input:
1. Connect a coaxial cable to the camera or other analog video source.
2. Connect the coaxial cable to the video in connector on the rear panel.

Please refer to Figure 3-1 for more information.

NOTE:

You need to use a BNC installation tool to connect coaxial cables to the rear panel.

Figure 3-1

3.6.2 Connecting Video Output

This section provides information about physically connecting video display devices to the DVR. See Figure 3-2.

If you connect the DVR with a TV monitor or VGA monitor, the DVR can automatically detects the monitor type. And without any output device, by default, the DVR is configured to use a TV monitor. In this case, if your application requires a VGA monitor, you have to press the button "FN" or Shift on the front panel.

NOTE:

Video output 1 and VGA can't display at the same time. But Video output 2 can display properly with Video Output 1 or VGA.

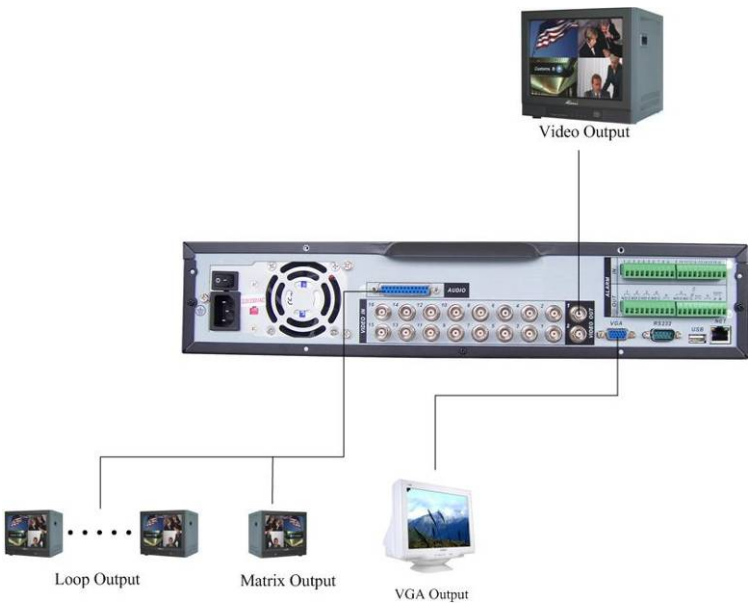


Figure 3-2

3.7 Connecting Audio Input & Output, Bidirectional Audio, Looping Video, Matrix

For the 25-pin or 37-pin interface, different models include different functions.
For example, DH-DVR1604GBE has 16 audio inputs, 1 audio output, I bidirectional audio input. See Figure 3-3.

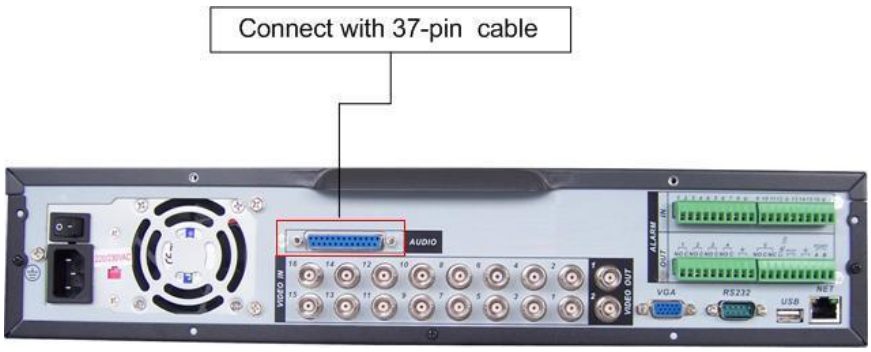


Figure 3-3

3.7.1 Audio Input/One Audio Output

DH-DVR1604GBEH has 16 looping video inputs, 4 matrix video outputs, 4 audio inputs, I bidirectional audio input, 1 audio output.
Audio input, bidirectional audio input and audio output
The DVR encodes audio and video signals simultaneously, which lets you control audio at the monitored location.
To set up audio:
1. Make sure your audio input device matches the RCA input level. If the device and RCA input levels do not match, audio distortion problems may occur.
2. Make sure the audio connector is wired as follows:
3. Connect a line input device or pre-amplified microphone to the audio connector for the video channel on the rear panel.
Please refer to Figure 3-4.

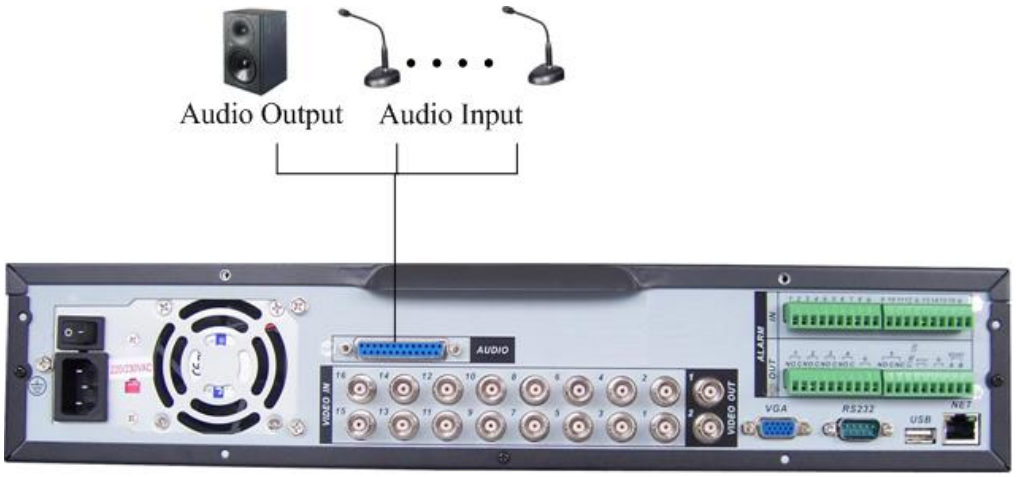


Figure 3-4

3.7.2 Looping video

The DVR supports looping video. It passes the video input to a monitor or other analog video device.
To use looping video:
1. Connect a coaxial cable to the video out connector on 37-pin interface
Please note you need to use a BNC installation tool to connect coaxial cables to the rear panel.
2. Connect the other end of the coaxial cable to the analog device.

3.7.3 Matrix Video Output

Use video matrix output connector during installation to display video sequentially from each video input. The unit displays each channel for selected seconds. You can use this feature to verify camera installation.
To display video from each connected video source:
1. Connect a video monitor to the video matrix output connector.
2. Turn the DVR on, the monitor, and each video matrix output source.
3. Verify the video from each source and troubleshoot as necessary.
Please refer to Figure 3-5.

Figure 3-5

3.7.4 Alarm Input and Relay Output

The DVR offers 16 alarm inputs for external signaling devices, such as door contacts or motion detectors. Each alarm input can be either normally open or normally closed. Once configured, an alarm input can invoke many different activities, including triggering a relay device, sending an alert to a security office or storing pre-alarm video to the DVR.

3.7.5 Alarm Input

You should check your alarm input mode is grounding alarm input or not.
For this series DVR, grounding signal is needed for alarm input.
If you need to connect two units or one DVR and other device, please use relay to separate them.
Please refer to Figure 3-6 for more information.

Figure 3-6

3.7.6 Alarm Output

Do not connect alarm output port directly with high power load (no more than 1 A) in case of heavy current.

You can use the co-contactor to realize the connection between the alarm output port and the load.

Please refer to Figure 3-7 for more information.

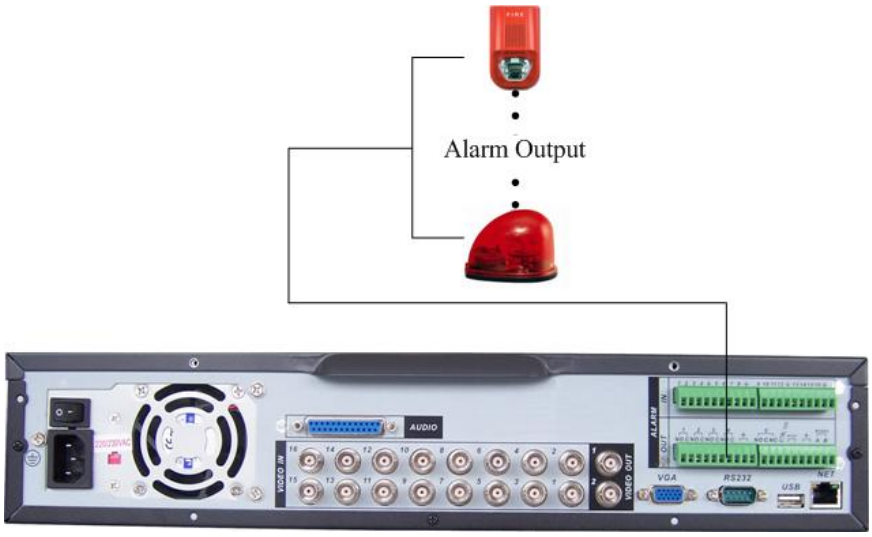


Figure 3-7

3.7.7 Alarm Input and Output Details

You can refer to the following sheet and Figure 3-8 for alarm input and output information.

Parameter	**Grounding Alarm**
Ground	Ground line
Alarm Input	1, 2, …, 16
Relay Output	1,2,3,4: NO and C(Normally Open and Com) 5: NO,C and NC(Normally Open, Com, Normally Closed) 6: Ctrl 12V(This is used for reset the senor)
485 A、B	485 communication port. They are used to control devices

	such as PTZ.
+12（C）	This should input an external power input.

- 4/8/16-ch grounding alarm inputs. (Normal open or Normal close type)
- Please parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Please parallel connect the Ground of the DVR and the ground of the alarm detector.
- Please connect the NC port of the alarm sensor to the DVR alarm input(ALARM)
- If you need to reset the touched-off alarm remotely, you can use DVR to supply controllable 12 V power to the alarm detector such as the smoke detector.
- Use the same ground with that of DVR if you use external power to the alarm device.

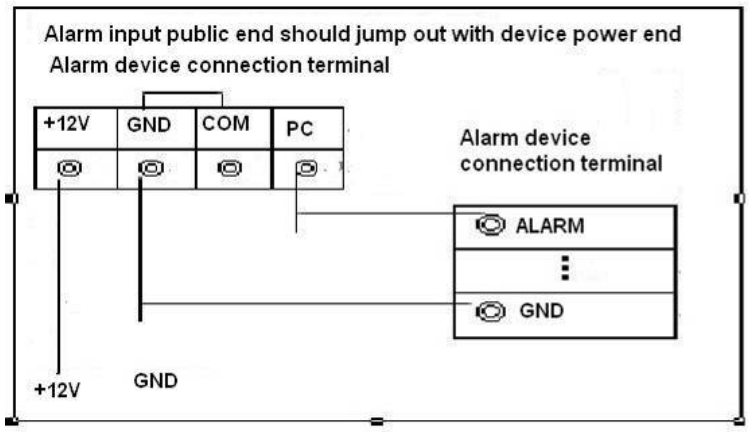


Figure 3-8

3.7.8 Relay Output Description

- 6 ways relay alarm output. Provide external power to external alarm device.
- To avoid over loading, please read the following relay parameters sheet carefully. (See below table)
- The controllable +12v can be used to restore the smoke detector.

Please refer to Figure 3-9 for alarm input module information.

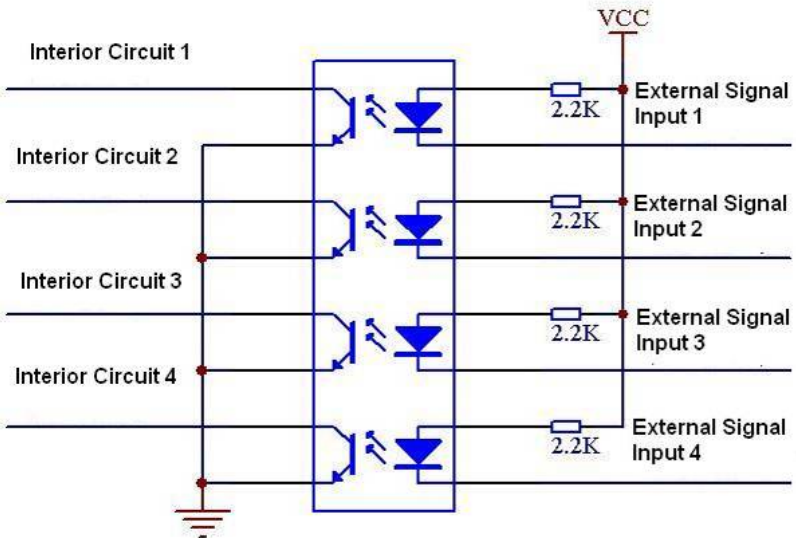


Figure 3-9

Please refer to Figure 3-10 for alarm output module information.

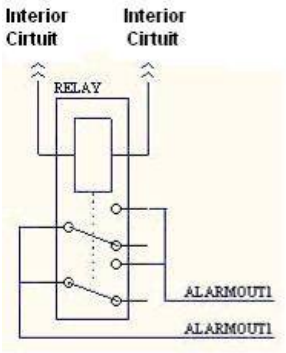


Figure 3-10

Relay Specification

Model:	**JRC-27F**	
Material of the touch	Silver	
Rating （resistance load）	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	between touches with same polarity	1000VAC 1minute 50/60Hz
	between touches with different polarity	1000VAC 1minute 50/60Hz
	between touch and winding	1000VAC 1minute 50/60Hz
Surge voltage	between touches with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×106 times (3Hz)
	Electrical	200×103 times (0.5Hz)
Temperature	-40℃ ~+70℃	

3.8 RS232

You can connect the DVR with POS or Keyboard through RS232.
With POS system, the DVR can communicate through RS232 and network. For the POS system, the DVR can integrate the text content and even search the record through the info.

The series DVR also support NKB operation. You can operate the DVR from the keyboard controls instead of using the control pad on the front panel of the unit.
To connect a NKB keyboard to the DVR:
1. Assemble the KBD keyboard according to the instructions in its accompanying installation manual.
2. Connect the KBD keyboard into one of the RS232 ports on the DVR or through network.

3.9 RS485

When the DVR receives a camera control command, it transmits that command up the coaxial cable to the PTZ device. RS485 is a single-direction protocol; the PTZ device can't return any data to the unit. To enable the operation, connect the PTZ device to the RS485(A,B) input on the DVR. Since RS485 is disabled by default for each camera, you must enable the PTZ settings first. This series DVRs support multiple protocols such as Pelco-D, Pelco-P.
To connect PTZ devices to the DVR:
1. Connect RS485 A,B on the DVR rear panel.
2. Connect the other end of the cable to the proper pins in the connector on the camera.
3. Follow the instructions for configuring a camera to enable each PTZ device on the DVR.

3.10 Other Interfaces

There are still other interfaces on the DVR, such as USB ports. You can refer to the Figure 3-11 for more information.

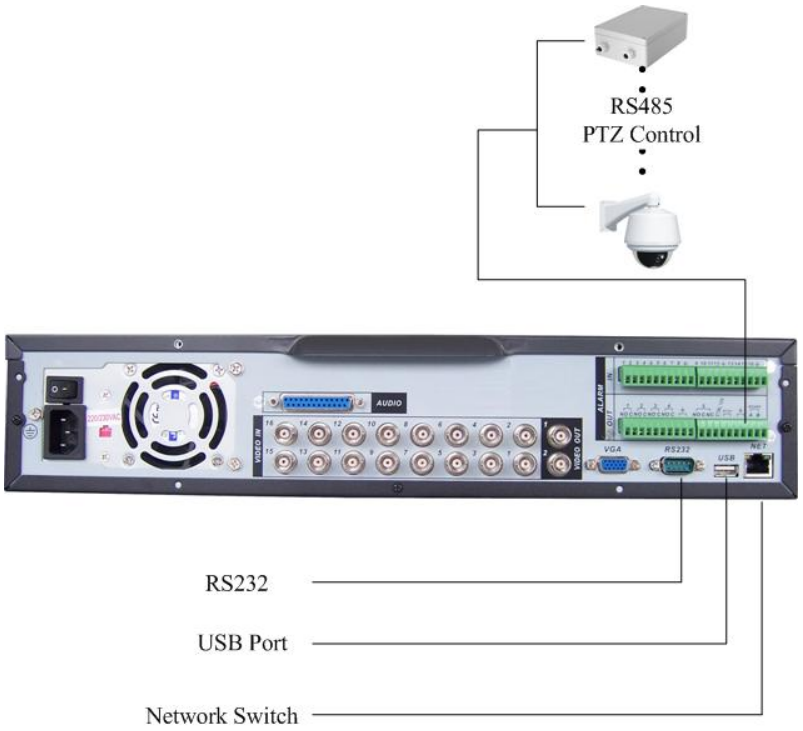


Figure 3-11

4 Overview of Navigation and Controls

Before operation, please make sure you have properly installed HDDs and all the cable connections.

4.1 Login, Logout & Main Menu

4.1.1 Login

When the system boots up, default video display is in multiple-window mode. Click Enter or left click mouse, you can see the login interface. See Figure 4-1. System consists of four accounts:

- Username: admin. Password: admin. (administrator, local and network)
- Username: 888888. Password: 888888. (administrator, local only)
- Username: 666666. Passwords: 666666(Lower authority user who can only monitor, playback, backup and etc.)
- Username: default. Password: default(hidden user)

For your system security, please modify you password after first login.

You can use USB mouse, front panel, remote controller or keyboard to input.

About input method: Click 123 to switch between numeral, English character (small/capitalized) and denotation.

Note: 3 times login failure in 30 minutes will result in account lock!

Figure 4-1

4.1.2 Main Menu

When you login, the system main menu is shown as below. See Figure 4-2. There are total six icons: search, information, setting, backup, advanced and shutdown. Move the cursor to highlight the icon, then double click mouse to enter the sub-menu.

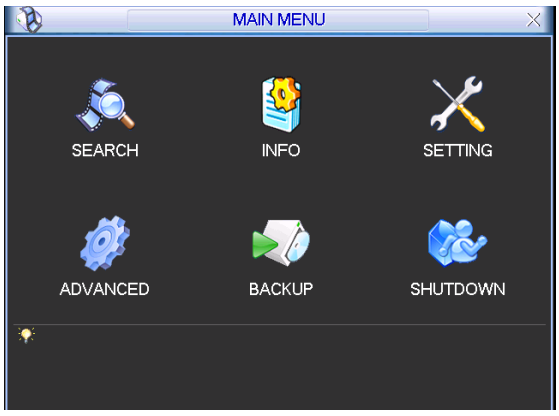


Figure 4-2

4.1.3 Logout

There are two ways for you to log out.

One is from menu option:

In the main menu, click shutdown button, you can see an interface is shown as below. See Figure 4-3.

Figure 4-3

There are several options for you. See Figure 4-4.

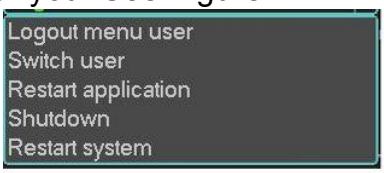


Figure 4-4

The other ways is to press power button on the front panel for at least 3 seconds, system will stop all operations. Then you can click the power button in the rear panel to turn off the DVR.

4.1.4 Auto Resume after Power Failure

The system can automatically backup video and resume previous working status after power failure.

4.1.5 Replace Button Battery

Please make sure to use the same battery model if possible.

We recommend replace battery regularly (such as one-year) to guarantee system time accuracy.

4.2 Recording Operation

4.2.1 Live Viewing

When you login, the system is in live viewing mode. You can see system date, time and channel name. If you want to change system date and time, you can refer to general settings (Main Menu->Setting->General). If you want to change the channel name, please refer to the display settings (Main Menu->Setting->Display)

1		Recording status	3		Video loss
2		Motion detection	4		Camera lock

Note: Please refer to the following sheet for channel status. stands for opening switch function, stands for closing switch function.

4.2.2 Manual record

Note:

You need to have proper rights to implement the following operations. Please make sure the HDDs have been properly installed.

4.2.2.1 Manual record menu

There are two ways for you to go to manual record menu.

- Right click mouse or in the main menu, Advanced->Manual Record.
- In live viewing mode, click record button in the front panel or record button in the remote control.

Manual record menu is shown as in Figure 4-5.

4.2.2.2 Basic operation

There are three statuses: schedule/manual/stop. Highlight icon "○" to select corresponding channel.

- Manual: the highest priority. After manual setup, all selected channels will begin ordinary recording.
- Schedule: channel records as you have set in recording setup (Main Menu->Setting->Schedule)
- Stop: all channels stop recording.

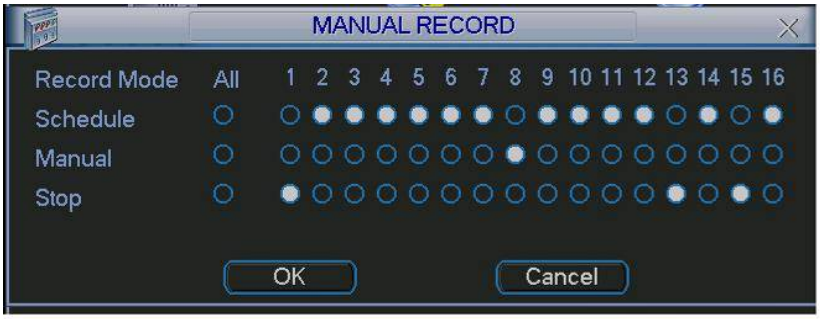


Figure 4-5

4.2.2.3 Enable/disable record

Please check current channel status: "○" means it is not in recording status, "●" means it is in recording status.

You can use mouse or direction key to highlight channel number. See Figure 4-6.

Figure 4-6

4.2.2.4 Enable all channel recording

Highlight ○ below All, you can enable all channel recording.

- All channel schedule record

Please highlight “ALL” after “Schedule”. See Figure 4-7.
When system is in schedule recording, all channels will records as you have previously set (Main menu->Setting->Schedule).
The corresponding indication light in front panel will turn on.

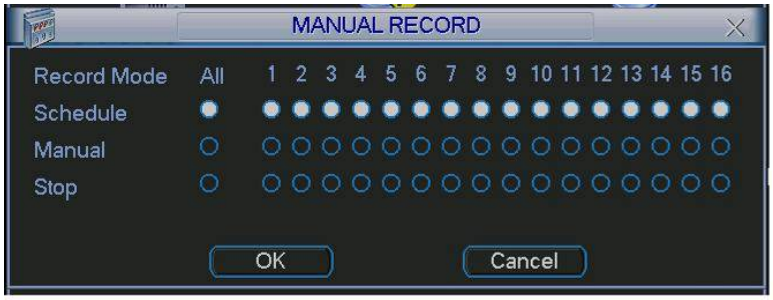


Figure 4-7

- All channel manual record

Please highlight “ALL” after “Manual.” See Figure 4-8.
When system is in manual recording, all scheduled set up you have set in will be null ((Main menu->Setting->Schedule)).
You can see indication light in front panel turns on, system begins manual record now.

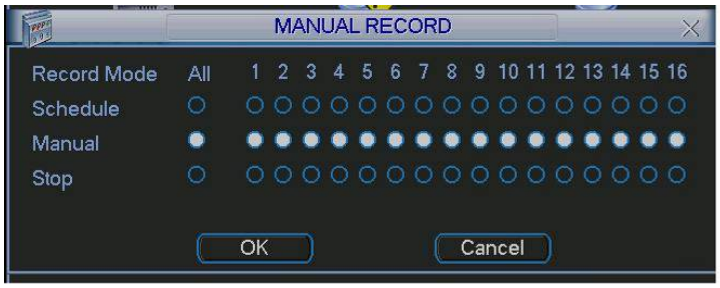


Figure 4-8

4.2.2.5 Stop all channel recording
Please highlight “ALL” after “Stop”. See Figure 4-9.
System stops all channel recording no matter what mode you have set in the menu (Main menu->Setting->Schedule)

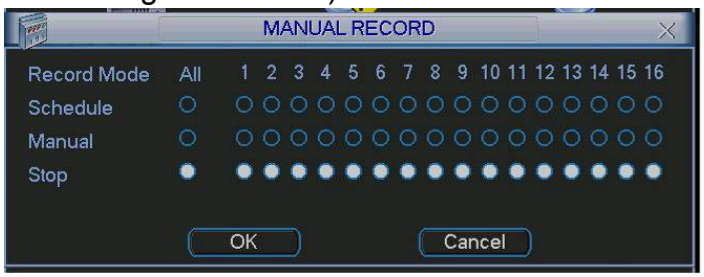


Figure 4-9

4.3 Search & Playback

4.3.1 Search Menu

There are two ways for you to go to search menu.

- Click Pause/Play button in the remote control.
- Click search in the main menu.

Search interface is shown as below. See Figure 4-10.

Usually there are three file types:

- R: regular recording file.
- A: external alarm recording file.
- M: motion detection recording file
- C: card and pos test overlay recording file(For some special series only)

There are several playback windows. System supports 1/2/4/16-ch playback.

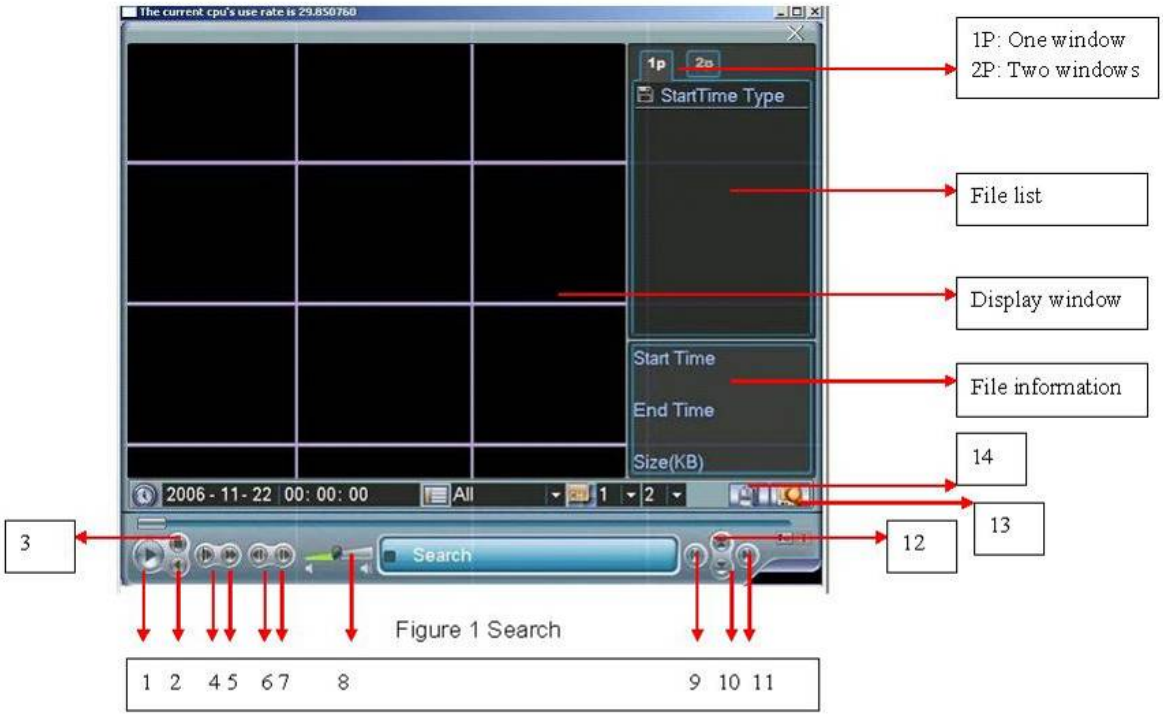


Figure 4-10

Please refer to the following sheet for more information.

Serial Number	Function
1	Play
2	Backward
3	Stop
4	Slow play
5	Fast play
6	Previous frame
7	Next frame
8	Volume
9	Previous file
10	Next channel
11	Next file
12	Previous channel
13	Search

14	Backup

Note:

Different series support different channel playback simultaneously. You can refer to the following information:

- GBE Series: 1-channel simultaneous playback.
- LB Series: 2-channel simultaneous playback
- LB SATA Series: 4-channel simultaneous playback.

4.3.2 Basic Operation

4.3.2.1 Playback

There are various search modes: video type, channel number or time. The system can max display 32 files in one screen. You can use up/down button to turn page. Select the file name and double click mouse (or click enter button), you can view file content.

4.3.2.2 Accurate playback

Input time (h/m/s) in the time column and then click playback button, system can operate accurate playback.

4.3.2.3 Synchronized playback function when playback

During playback process, click numeral key, system can switch to the corresponding channel video of the same time.

4.3.2.4 Digital zoom

When the system is in full-screen playback mode, drag your mouse in the screen to select a section and then left click mouse to realize digital zoom. You can right click mouse to exit.

4.3.2.5 File backup

System supports backup operation during search. You can draw a √ before file name (multiple choices). Then click backup button (Button 14 in Figure 4-10).

4.3.2.6 Slow playback and fast playback

Please refer to the following sheet for slow play and fast playback function.

Button	Illustration	Remarks
Fast play button ▶▶	In playback mode, click this button to switch between various fast play modes such as fast play 1,fast play 2 and more.(Fast play 1 means fast play level 1 or not about speed)	Frame rate may vary due to different versions.
Slow play button ▶ (Or you can turn the outer ring counter clockwise.)	In playback mode, click this button to switch between various slow play modes such as slow play 1 or slow play 2.	
3、Play/Pause▶‖	In slow playback mode, click this button to switch between play/pause modes.	
4、Previous/next	In playback mode, you can click ◀ and ▶I to view previous or next video in current channel.	

4.3.2.7 Fast forward/fast backward and frame by frame playback

Special Functions of Shuttle and Jog	Illustration	Remarks
Fast forward(outer ring clockwise)	When playback, turn the shuttle (outer ring) clockwise one round: you can view in fast level 1 Turn it two rounds you get fast level 2. You can continue turning to get different speed.	In forward or backward mode, double click Pause/Play button to get normal playback. Frame rate may vary due to different version.
Fast backward(outer ring counter clockwise)	When playback, turn the shuttle (outer ring) counter clock-wise one round, you can view in backward level 1. Turn it two rounds, you get backward level 2. You can continue turning to get different speed.	
Manual playback frame by frame	In playback mode, click play/pause button, slowly turn the jog (inner dial) clock-wise to view frame by frame, counter clock wise to view I frame playback.	

4.3.2.8 Backward playback and frame by frame playback

Button	Illustration	Remarks
Backward play ⏮ in playback interface.	In normal playback mode, left click backward play button, system begins backward playback. Double click backward play button again, system goes to pause mode.	When system is in backward play or frame by frame playback mode, you can click play button to go to normal playback.
Manual playback frame by frame.	Click pause button in normal playback mode, slowly turn the jog (inner dial) clock-wise to view frame by frame, counter clock wise to view I frame playback.	

Note:
All the operations here (such as playback speed, channel, time and progress) have relationship with hardware version. Some series DVRs do not support some functions or playback speeds.

4.3.3 Calendar

Click calendar icon in Figure 4-10, system pops up calendar for your reference.
Highlighted date means that there are record files in that day. You can click blue date to view file list.
In Figure 4-11, there are video files in March 13th and 14th. Double click date to view file list.

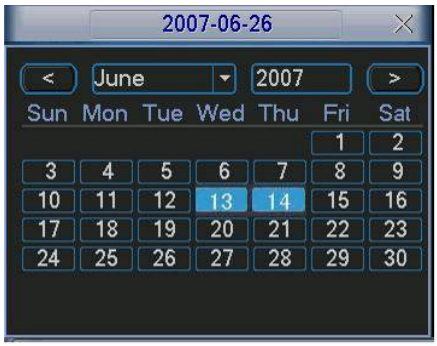


Figure 4-11

4.4 Record Setup (Schedule)

When the system boots up, it is in default 24-hour regular mode. You can set record type and time in schedule interface.

4.4.1 Schedule Menu

In the main menu, from setting to schedule, you can go to schedule menu. See Figure 4-12.

There are three record types: R-Regular, MD-Motion detection, A- Alarm. In some series, system also supports C-Card)

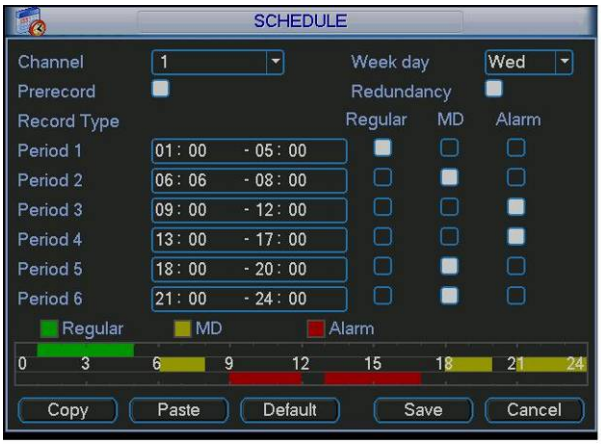


Figure 4-12

4.4.2 Basic Operation

There are totally six periods. See Figure 4-12.

- Channel: Please select the channel number first. You can select “all” if you want to set for the whole channels.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Redundancy: System supports redundancy backup function. You can highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. Refer to the manual for detailed information.
- Prerecord: System supports prerecord function. The previous one to three seconds video before alarm occurs can be included in recorded video.
- Record types: There are three types: regular, motion detection (MD) and Alarm.

Please highlight icon to select the corresponding function. After all the setups please click save button, system goes back to the previous menu.
At the bottom of the menu, there is a color bar for your reference. Green stands for regular recording, yellow stands for motion detection and red stands for alarm recording.

4.4.1.1 Quick Setup

This function allows you to copy one channel setup to another. After setting in channel 1, you can click paste button and turn to channel 2 and then click copy button. You can finish setting for one channel and then click save button or you can finish all setup and then click save button to memorize all the settings.

4.4.1.2 Redundancy

Redundancy function allows you to memorize record file in several disks. These files are created, packaged and closed simultaneously. When there is file damage occurred in one disk, there is a spare one in the other disk. You can use this function to maintain data reliability and safety.

In the main menu, from Setting to Schedule, you can highlight redundancy button to enable this function. See Figure 4-12.

In the main menu, from Advanced to HDD management, you can set one or more disk(s) as redundant. You can select from the dropdown list. See Figure 4-13.

System auto overwrites old files once hard disk is full.

Please note only read/write disk or read-only disk can backup file and support file search function, so you need to set at least one read-write disk otherwise you can not record video.

Note:

About redundancy setup please note:

- If current channel is not recording, current setup gets activated when the channel begin recording the next time.
- If current channel is recording now, current setup will get activated right away, the current file will be packet and form a file, then system begins recording as you have just set.

After all the setups please click save button, system goes back to the previous menu.

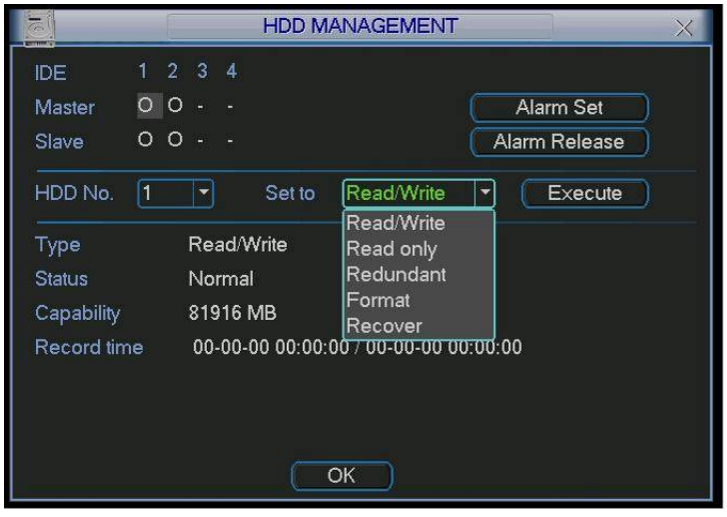


Figure 4-13

Playback or search in the redundant disk.

There are two ways for you to playback or search in the redundant disk.

- Set redundant disk(s) as read-only disk or read-write disk (Main menu->Advanced->HDD management). See Figure 4-13.System needs to reboot to get setup activated. Now you can search or playback file in redundant disk.
- Dismantle the disk and play it in another PC.

4.5 Motion Detect

4.5.1 Go to Motion Detect Menu

In the main menu, from Setting to Detect, you can see motion detect interface. See Figure 4-14.

4.5.2 Motion Detect

Detection menu is shown as below. See Figure 4-14.

- Channel: select the channel you want to implement motion detection.
- Type: in the dropdown list, select motion detection item.
- Record channel: select the channel to activate recording function once alarm occurred. Please make sure you have set MD record in encode interface(Main Menu->Setting->Schedule) and schedule record in manual record interface(Main Menu->Advanced->Manual Record)
- Enable tour: Here is for you to activate tour between different cameras.
- Latch: when motion detection complete, system auto delays detecting for a specified time. The value ranges from 10-300(Unit: second)
- PTZ preset: Click set button, the interface is shown as in Figure 4-15.Here you can set preset for one or more channels.
- Region: click “select” button to set motion detection region. See Figure 4-16.
- Sensitivity: there are six levels. The six-level is of the highest sensitivity.
- Alarm output: when alarm occurred, system enables peripheral alarm devices.
- Show message: System pops up message in the screen to alert you once alarm occurred.

Please highlight icon to select the corresponding function. After all the setups please click save button, system goes back to the previous menu.

Note:

In motion detection mode, you can not use copy/paste to set channel setup since the video in each channel may not be the same.

In Figure 4-15, you can left click mouse and then drag it to set a region for motion detection. Click Fn to switch between deployment and withdraw motion detection. After setting, click enter button to exit.

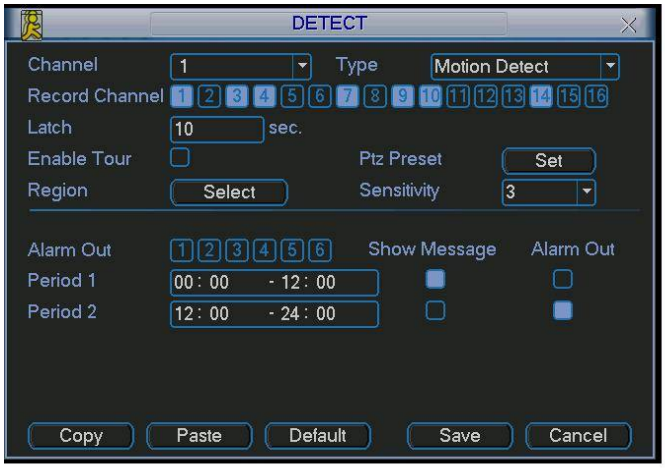


Figure 4-14

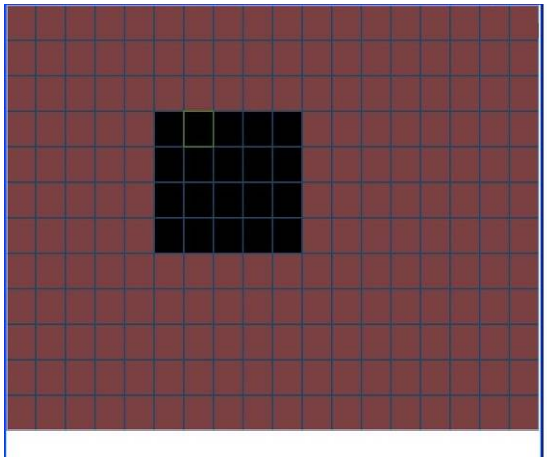


Figure 4-15

Figure 4-16

4.5.3 Video Loss

In Figure 4-14, select video loss in the Type item. You can see the interface is shown as in Figure 4-17.This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.

- Channel: select the channel you want to enable lens shading alarm.
- Type: please select video loss.
- Record channel: select the channel to record when video loss occurred.
- Alarm output: activate peripheral alarm device when video loss occurred.
- Enable tour: Here is for you to activate tour between different cameras.
- Latch: when motion detection completes, system auto delays detecting for a specified time. The value ranges from 10-300(Unit: second)

- PTZ preset: Click set button to set preset for one or all channels. See Figure 4-16.
- Period 1/2: It is for you to set two periods (00.00-24.00).
- Alarm output: when video loss occurred, system enables peripheral alarm devices. Please highlight icon to enable this function
- Show message: System pops up message in the screen to alert you once alarm occurred. Please highlight icon to enable this function.

Figure 4-17

4.5.4 Camera Mask Detect

When someone viciously masks lens, the system can alert you to guarantee video continuity. Camera mask detection interface is shown as in Figure 4-18.

- Channel: select the channel you want to enable camera mask detection function.
- Type: please select camera mask detect from the dropdown list.
- Record channel: select the channel to record when camera mask occurred.
- Alarm output: activate peripheral alarm device when camera mask occurred.
- Enable tour: Here is for you to activate tour between different cameras.
- Latch: when motion detection completes, system auto delays detecting for a specified time. The value ranges from 10-300(Unit: second)
- PTZ preset: Click set button to set preset for one or all channels. See Figure 4-16.
- Period 1/2: there are for you to set two periods (00.00-24.00).
- Alarm output: when camera masking occurred, system enables peripheral alarm devices. Please highlight icon to enable this function
- Show message: System pops up message in the screen to alert you once alarm occurred. Please highlight icon to enable this function

Note:

In this interface, copy/paste function is only valid for the same type, which means you can not copy a channel setup in video loss mode to camera mask detect mode.

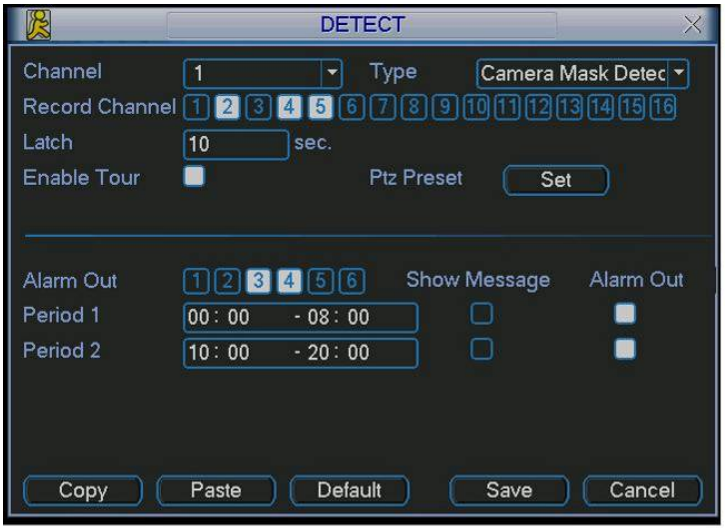


Figure 4-18

4.6 Alarm Setup and Alarm Activation

Before operation, please make sure you have properly connected alarm devices such as buzzer.

4.6.1 Go to alarm setup interface

In the main menu, from Setting to Alarm, you can see alarm setup interface. See Figure 4-19.

4.6.2 Alarm setup

Alarm interface is shown as below. See Figure 4-19.

- Alarm in: here is for you to set channel number.
- Source of alarm: there are two alarm sources: local input or network input.
- Type: normal open or normal close.
- Record channel: you can select proper channel to record alarm video (Multiple choices). At the same time you need to set alarm record in schedule interface (Main Menu->Setting->Schedule) and select schedule record in manual record interface (Main Menu->Advance->Manual Record).
- Latch: Here is for you to set proper delay duration. Value ranges from 10 to 300 seconds. System automatically delays specified seconds in turning off alarm and activated output after external alarm cancelled.
- PTZ preset: Here is for you to activate PTZ control.
- Relay out: select proper alarm activation output channel (multiple choices).
- Show message: System pops up message in the screen to alert you once alarm occurred.
- Period 1 and period 2: set proper time and alarm tips.

Please highlight icon to select the corresponding function. After all the setups please click save button, system goes back to the previous menu.

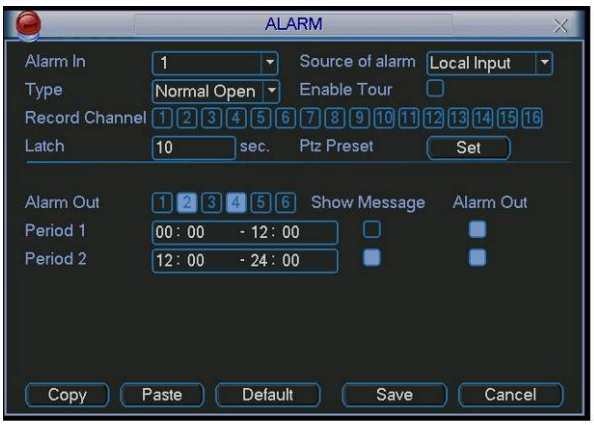


Figure 4-19

4.7 Backup

Click backup icon in the main menu, there are two function items: detect device and backup files.

4.7.1 Detect Device

Here is for you to view devices information. See Figure 4-20.

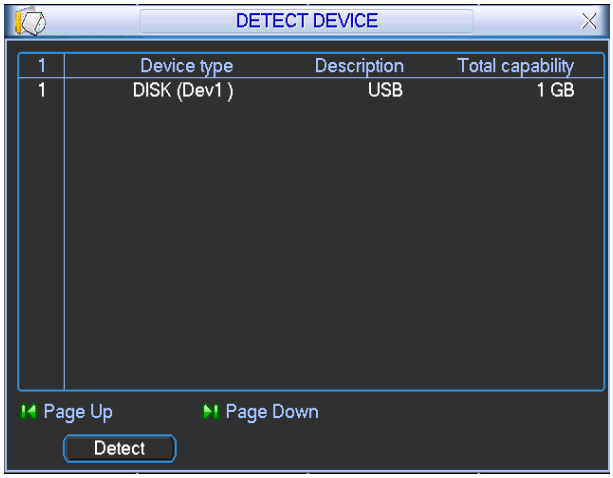


Figure 4-20

4.7.1 Backup

Select backup device and then channel, file start time and end time.

Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 4-21.

system only backup files with a √ before channel name. You can use Fn or cancel button to delete √ after file serial number.

Click backup button, you can backup selected files. There is a process bar for you reference.

When the system completes backup, you can see a dialogue box prompting successful backup.

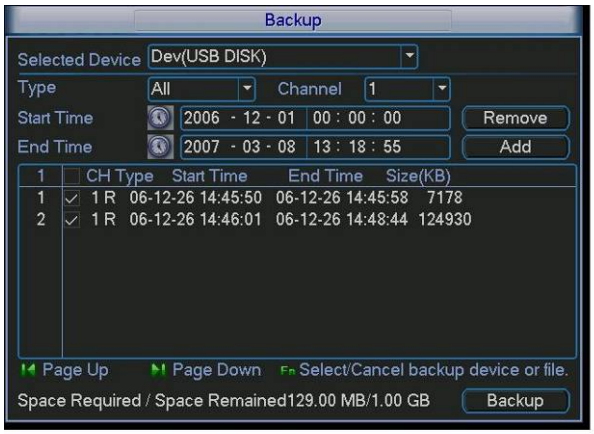


Figure 4-21

Click backup button, system begins burning. At the same time, the backup button becomes stop button. You can view the remaining time and process bar at the left bottom. See Figure 4-22.

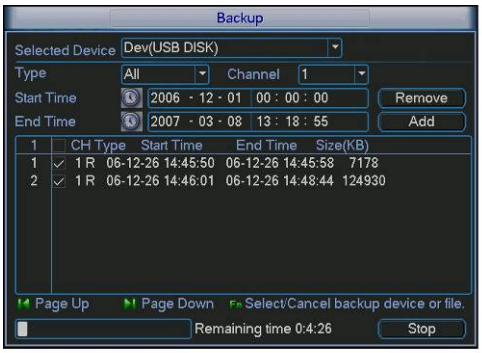


Figure 4-22

Tips:

During backup process, you can click ESC to exit current interface; but the system will not terminate backup process.

Note:

When you click stop button during the burning process, there are two conditions for different devices:

- For CD/DVD burner device, the stop function becomes activated immediately and there is no data in the burner.
- For USB device, system can backup the data before you click stop button. For example, if there is a file of 10 minutes, when you click stop after five minutes backup, system only save the previous 5-minute data in the device.

The file name format usually is: SN_CH+channel number+time Y+M+D+H+M+S. In the file name, the YDM format is the same as you set in general interface. (Main Menu ->Setting ->General).You can visit our website to view listed CD-ROM type.

4.8 PTZ Control and Color Setup

Note: All the operation here is based on DH-SD protocol. For PELCO protocols, there might be a little difference.

4.8.1 Cable Connection

Please follow the procedures below to go on cable connection

- Connect the dome RS485 port to DVR 485 port..
- Connect dome video output cable to DVR video input port.
- Connect power adapter to the dome.

4.8.2 PTZ Setup

Note: The camera video should be in the current screen. Before setup, please check the following connections are right:

- PTZ and decoder connection is right. Decoder address setup is right.
- Decoder A (B) line connects with DVR A (B) line.

Boot up the DVR, input user name and password.

In the main menu, click setting, and then click Pan/Tilt Control button. The interface is shown as in Figure 4-23. Here you can set the following items:

- Channel: select the current camera channel.
- Protocol: select corresponding PTZ protocol(such as DH-SD1)
- Address: default address is 1.
- Baud rate: select corresponding baud rate. Default value is 9600.
- Data bits: select corresponding data bits. Default value is 8.
- Stop bits: select corresponding stop bits. Default value is 1.
- Parity: there are three options: odd/even/none. Default setup is none.

Figure 4-23

After all the setting please click save button.

In one window display mode, right click mouse (click “Fn” Button in the front panel or click “Fn” key in the remote control). The interface is shown as in Figure 4-24.

Figure 4-24

Click Pan/Tilt/Zoom, the interface is shown as below. See Figure 4-25.
Here you can set the following items:

- Step: value ranges fro 1 to 8.
- Zoom
- Focus
- Iris

Click icon and to adjust zoom, focus and iris.

Figure 4-25

In Figure 4-25, please click direction arrows (See Figure 4-26) to adjust PTZ position. There are totally 8 direction arrows.

Figure 4-26

4.8.3 3D Intelligent Positioning Key

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 4-27.
Click this key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. It can realize PTZ automatically.

Figure 4-27

Here is a sheet for you reference.

Name	Function key	function	Shortcut key	Function key	function	Shortcut Key
Zoom		Near	▶		Far	▶▶
Focus		Near	◀		Far	▶
Iris		close	II ◀		Open	▶ II

4.9 Preset/ Patrol/Pattern/Scan

In Figure 4-25, click the “set” button. The interface is shown as below. See Figure 4-28.

Here you can set the following items:

- Preset
- Patrol(Tour)
- Pattern
- Border

Figure 4-28

In Figure 4-25, click page switch button, the interface is shown as in Figure 4-29.

Here you can activate the following functions:

- Preset
- Patrol(Tour)
- Pattern
- Aux on
- Aux off
- Auto scan
- Auto pan
- Light on

Figure 4-29

Note: The following setups are usually operated in the Figure 4-25,Figure 4-28 and Figure 4-29 .

4.9.1Preset Setup

In Figure 4-25, use eight direction arrows to adjust camera to the proper position.
In Figure 4-28, click preset button and input preset number. The interface is shown as in Figure 4-30.
Now you can add this preset to one patrol (tour).

Figure 4-30

4.9.2 Activate Preset

In Figure 4-29, please input preset number in the No. blank, and click preset button.

4.9.3 Patrol Setup (Tour setup)

In Figure 4-28, click patrol button. The interface is shown as in Figure 4-31.Input preset number and add this preset to a patrol (tour). For each patrol (tour), you can input max 80 presets.

Figure 4-31

4.9.4 Activate Patrol (tour)

In Figure 4-28, input patrol (tour) number in the No. blank and click patrol button

4.9.5 Pattern Setup

In Figure 4-28, click pattern button and then click “begin” button. The interface is shown as in Figure 4-32. Then you can go to Figure 4-25 to modify zoom, focus, and iris.
Go back to Figure 4-32 and click “end” button. You can memorize all these operations as pattern 1.

Figure 4-32

4.9.6 Activate Pattern Function

In Figure 4-29, input mode value in the No. blank, and click pattern button.

4.9.7 Auto Scan Setup

In Figure 4-28, click border button. The interface is shown as in Figure 4-23.
Please go to Figure 4-25, use direction arrows to select camera left limit
Then please go to Figure 4-33 and click left limit button
Repeat the above procedures to set right limit.

Figure 4-33

4.9.8 Activate Auto Scan

In Figure 4-29, click “Auto Scan” button, the system begins auto scan. Correspondingly, the auto scan button changes to stop button. Click stop button to terminate scan operation.

4.10 Dome Menu Control

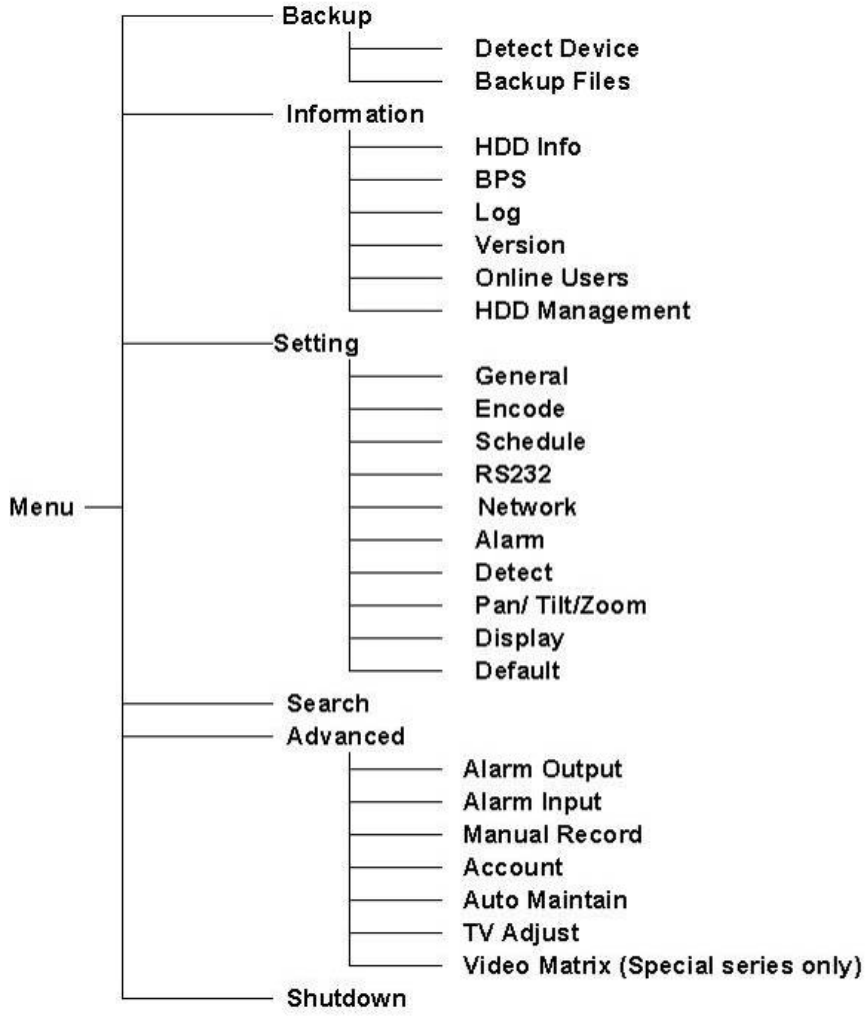
In Figure 4-29, click page switch button, the interface is shown as below. See Figure 4-34.
Click menu to enter dome menu. The direction arrows here are to control dome menu. Click page switch button, system goes back to Figure 4-25

Figure 4-34

5 Understanding of Menu Operations and Controls

5.1 Menu Tree

This series DVR menu tree is shown as below.



5.2 Main Menu

When you login, the system main menu shows as below. See Figure 5-1 . There are totally six icons: search, Information, setting, backup, advanced and shutdown. Move the cursor to highlight the icon, then double click mouse to enter the sub-menu.

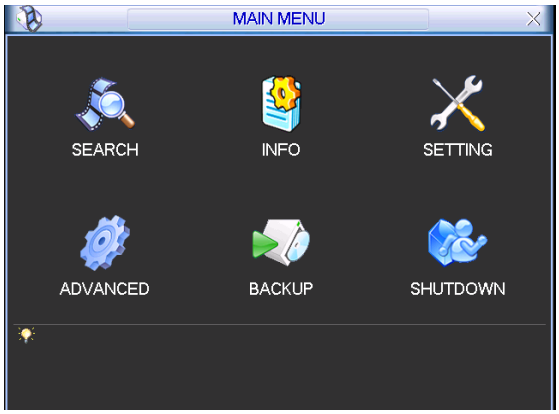


Figure 5-1

5.3 Setting

In main menu, highlight setting icon and double click mouse. System setting interface is shown as below. See Figure 5-2.

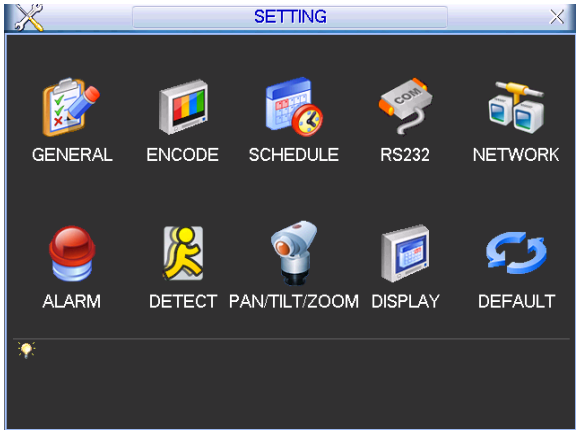


Figure 5-2

5.3.1 General

General setting includes the following items. See Figure 5-3.

- System time: here is for you to set system time
- Date format: there are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.
- Date separator: there are three denotations to separate date: dot, beeline and solidus.
- Time format: there are two types: 24-hour mode or 12-hour mode.
- Language: system supports various languages: Chinese (simplified), Chinese (Traditional), English, Italian, Japanese, French, Spanish (All languages listed here are optional. Slight difference maybe found in various series.)
- HDD full: Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite.
- Pack duration: Here is for you to specify record duration. Default value is 60 minutes.

- DVR No: when you are using one remote control to control several DVRs, you can give a name to each DVR for your management.
- Video standard: There are two formats: NTSC and PAL.
- Auto logout: Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes.

Note: since system time is very important, do not modify time casually unless there is a must.

After all the setups please click save button, system goes back to the previous menu.

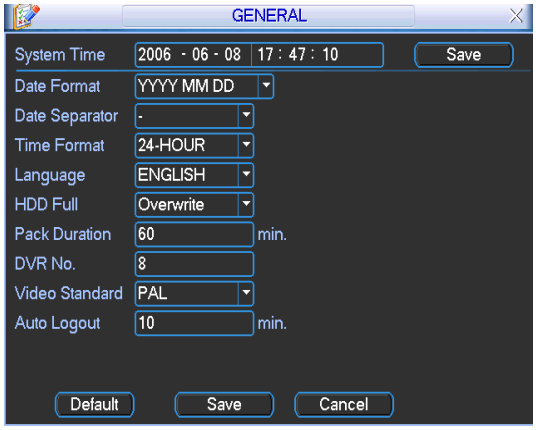


Figure 5-3

5.3.2 Encode

Encode setting includes the following items. See Figure 5-4.

- Channel: Select the channel you want.
- Compression: system supports H.264.Or you can select from the dropdown list.
- Resolution: System supports various resolutions, you can select from the dropdown list. For the GBE model, we can support D1/Half-D1/CIF/QCIF.
- Bit rate: system supports two types: CBR and VBR.
- Quality: There are six levels ranging from 1 to 6. Level six is the highest image quality.
- Frame rate: there are six levels: 1 f/s,2f/s,3f/s, 6f/s,12f/s,25f/s. (Some series DVRs only support PAL 25f/s)
- Enable audio: you can turn on or off the audio.
- Cover area (Privacy mask): Here is for you to set window blanking section. You can drag you mouse to set proper section size.
- Time display: You can select system displays time or not.
- Channel display: You can select system displays channel number or not.

Please highlight icon to select the corresponding function.

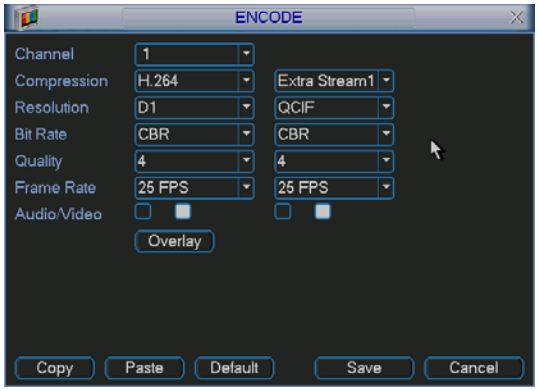


Figure 5-4

For GBE series, it supports various settings for channel, resolution and frame:
Resolution：pixel
PAL：QCIF=176×144; CIF＝352×288; HD1＝352×576; 2CIF=704×288; D1＝704×576;
NTSC：QCIF=176×120; CIF＝352×240; HD1＝352×480; 2CIF=704×288; D1＝704×480;
We take 16-channel DVR as an example. There are four groups：1~4, 5~8, 9~12, 13~16.
Please refer to the formula：resolution× frame rate
The resources for one group are: PAL: D1×50 or NTSC: D1×60
D1×50(60)F/s=Half-D1×100(120)F/s=CIF×200(240)F/s
You can arrange channel parameter within the specified limit.
Please refer to the following list：

Channel resources				Max frame PAL（NTSC）	Note
A	B	C	D		
D1 25(30)F/s	D1 12(15)F/s	D1 6(7)F/s	D1 6(7)F/s	25(30)F/s	1 D1 real-time, 3 D1 non-real time
D1 12(15)F/s	D1 12(15)F/s	D1 12(15)F/s	D1 12(15)F/s	12(15)F/s	4 D1non-real tim
D1 25(30)F/s	HD1 25(30)F/s	CIF 25(30)F/s	CIF 25(30)F/s	25(30)F/s	1 D1,1 HD1,2 CI real-time
HD1 25(30)F/s	HD1 25(30)F/s	HD1 25(30)F/s	HD1 25(30)F/s	25(30)F/s	4 HD1 real-time
CIF 25(30)F/s	CIF 25(30)F/s	CIF 25(30)F/s	CIF 25(30)F/s	25(30)F/s	4 CIF real-time
…	…	…	…	…	Other setup

Note：

- A、B、C、D is the four channels in one group.
- The totally whole resources are limited. When you wan to enhance resource in one channel you need to reduce resource for other channel.
- The system will pop up setup failure interface if the resource setup is beyond the limit.

In the above list, × means there is no video in current channel. You can highlight “video” button to activate video function.

Dual encoding streams: this series support dual encoding streams. Main stream is for local recording, and the extra stream can be used for network transmission. And they don't affect each other.
So for local recording you can use main stream. And for network transmission, you can select main stream or extra stream.

5.3.3 Schedule

Please refer to chapter 4.4 schedule.

5.3.4 RS232

RS232 interface is shown as below. Here are five items. See Figure 5-5.

- Function: There are various devices for you to select.
- Baud rate: You can select proper baud rate.
- Data bit: You can select proper data bit.
- Stop bit: There are three values: 1/1.5/2.
- Parity: there are three choices: none/odd/even.

After all the setups please click save button, system goes back to the previous menu

Figure 5-5

5.3.5 Network

Here is for you to input network information. See Figure 5-6.

- IP address
- Subnet mask
- Gateway
- Service port: Default value is 37777. (System server port 37778 is reserved for network UDP use.)
- HTTP port: Default value is 80
- Protocol: You can select proper protocol from the dropdown list.
- Max connection: support maximal 10 users.
- Properties: There are three options for you: FTP/NTP/Alarm center. You can select corresponding ways and then click properties button to go to setup interface.

- Authorization: Click authorization button please highlight icon to enable IP authentication function. When you enable this function, only IP in the list can login this DVR. See Figure 5-7.

After all the setups please click save button, system goes back to the previous menu.

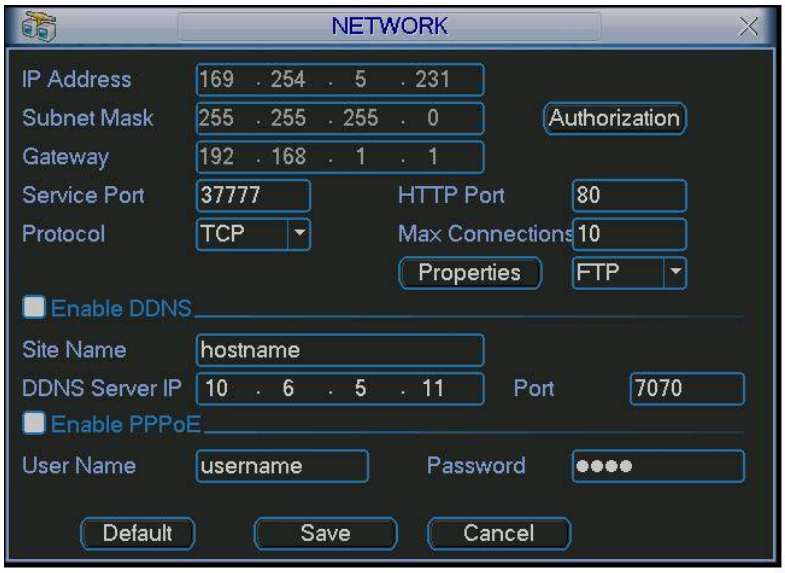


Figure 5-6

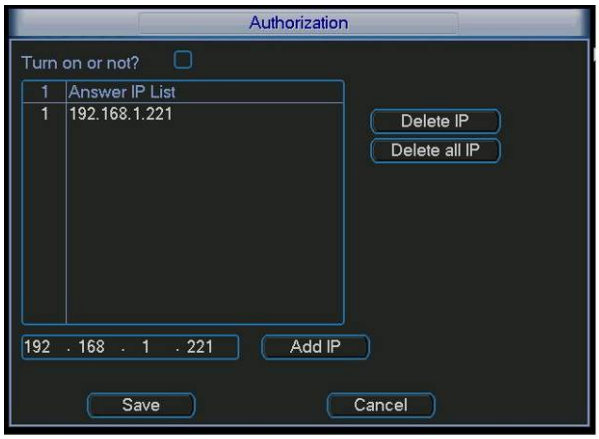


Figure 5-7

5.3.5.1 PPPoE Connection

Enable PPPoE function and then input “PPPoE name” and “PPPoE password” you get from your ISP (Internet service provider).

Click save button, you need to restart to activate your configuration.

After rebooting, IP camera will connect to internet automatically. The IP in the PPPoE is the dynamic value.

5.3.5.2 Web visit via PPPoE

There are two ways.

a. visit via current IP

After DVR connected with Internet by PPPoE, please get your device’s current IP in Figure 5-6. Now you can visit this IP camera via this IP.

b. Visit via DNS

You need a PC of fixed IP in the internet and there is the DDNS software running in this PC. In other words, this PC is a DNS (domain name server).

In network DDNS, input your PPPoE name you get from you IPS and server IP (PC with DDNS) . Click save button and then reboot system.
Click save button, system prompts for rebooting to get all setup activated.
After rebooting, open IE and input as below:
http：//(DDNS server IP)/(virtual directory name)/webtest.htm
e.g.: http：//10.6.2.85/DVR _DDNS/webtest.htm.)
Now you can open DDNSServer web search page.
5.3.5.3 FTP
You need to download or buy FTP service tool (such as Ser-U FTP SERVER) to establish FTP service.
Please install Ser-U FTP SERVER first. From “start” -> “program” -> Serv-U FTP Server -> Serv-U Administator. Now you can set user password and FTP folder. Please note you need to grant write right to FTP upload user. See Figure 5-8.

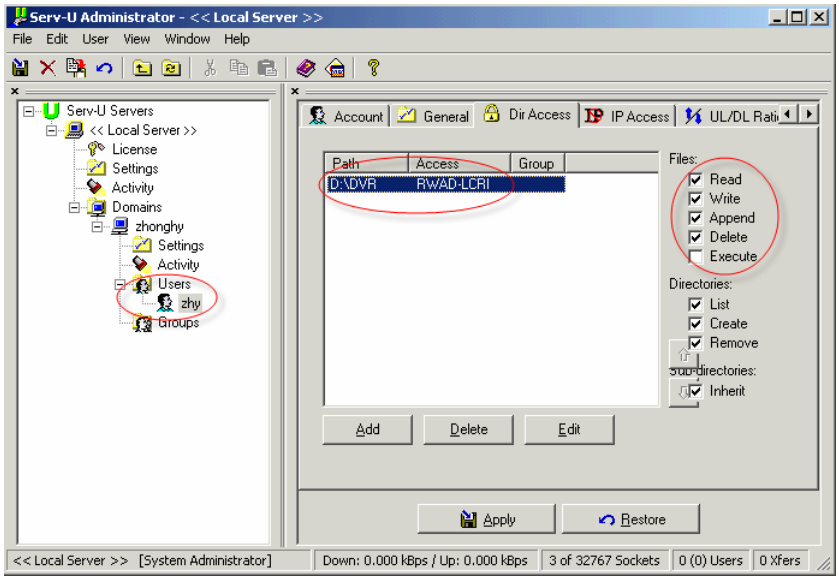


Figure 5-8

You can use a PC or FTP login tool to test setup is right or not.
For example, you can login user ZHY to FTP://10.10.7.7 and then test it can modify or delete folder or not. See Figure 5-9.

Figure 5-9

System also supports upload multiple DVRs to one FTP server. You can create multiple folders under this FTP.
In Figure 5-6, select FTP and then click properties button. You can see the following interface. See Figure 5-10.

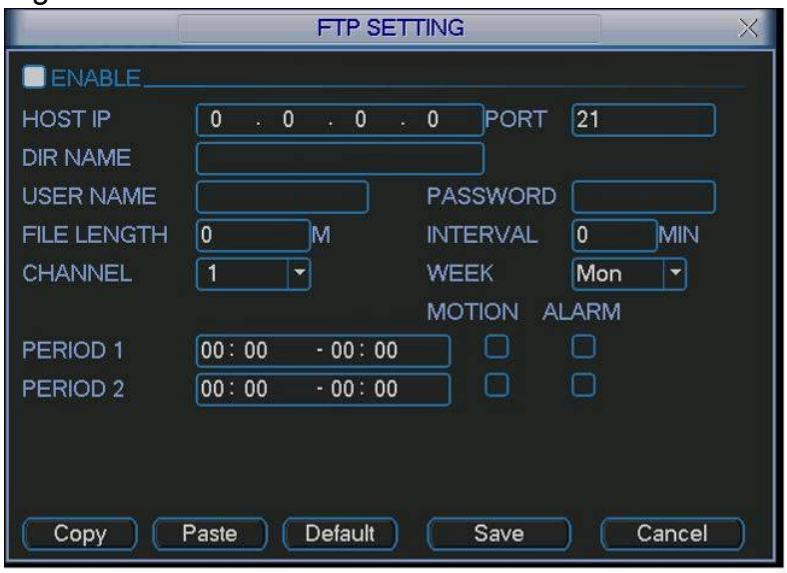


Figure 5-10

Please highlight the icon ☐ in front of Enable to activate FTP function.
Now FTP can upload alarm video and motion detection video. Please note, when you are using this function, please make sure current upload channel is in motion detection or alarm record status and there is video available.
Here you can input FTP server address, port and etc.

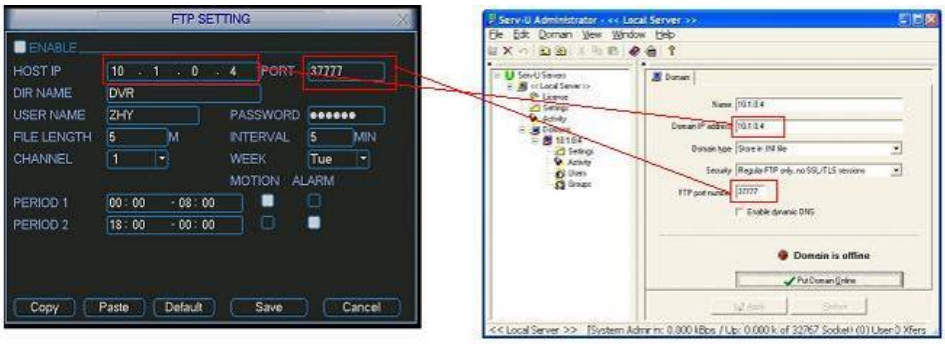


Figure 5-11

- File length: upload file length. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length, system only uploads the set length and auto ignore the left section.
- Interval: in each channel, system only uploads the first video file in accordance with video type (alarm/motion detection) during the same period. For example, when interval value is 5 minutes, system only uploads the first motion detection or alarm file in each 5-minute.
- When interval value is 0, system uploads all corresponding files.
- Period 1 and period 2: you can set two periods for one each channel.

System file name is shown as in Figure 5-12.

Figure 5-12

5.3.5.4 NTP

You need to install SNTP server (Such as Absolute Time Server) in your PC first. In Windows XP OS, you can use command “net start w32time” to boot up NTP service. In Figure 5-6, select NTP and then click properties button. You can see the following interface. See Figure 5-13.

- Host IP: Input your PC address.
- Port: This series DVR supports TCP transmission only. Port default value is 123.
- Update interval: minimum value is 15(Unit: minute)
- Time zone: select your corresponding time zone here.

Here is a sheet for your time zone setup.

City /Region Name	Time Zone
London	GMT+0
Berlin	GMT+1
Cairo	GMT+2
Moscow	GMT+3
New Deli	GMT+5
Bangkok	GMT+7
Beijing (Hong Kong)	GMT+8
Tokyo	GMT+9
Sydney	GMT+10
Hawaii	GMT-10
Alaska	GMT-9
Pacific Time(P.T)	GMT-8
American Mountain Time(M.T)	GMT-7
American Central Time(C.T)	GMT-6
American Eastern Time(E.T)	GMT-5
Atlantic Time	GMT-4
Brazil	GMT-3
Middle Atlantic Time	GMT-2

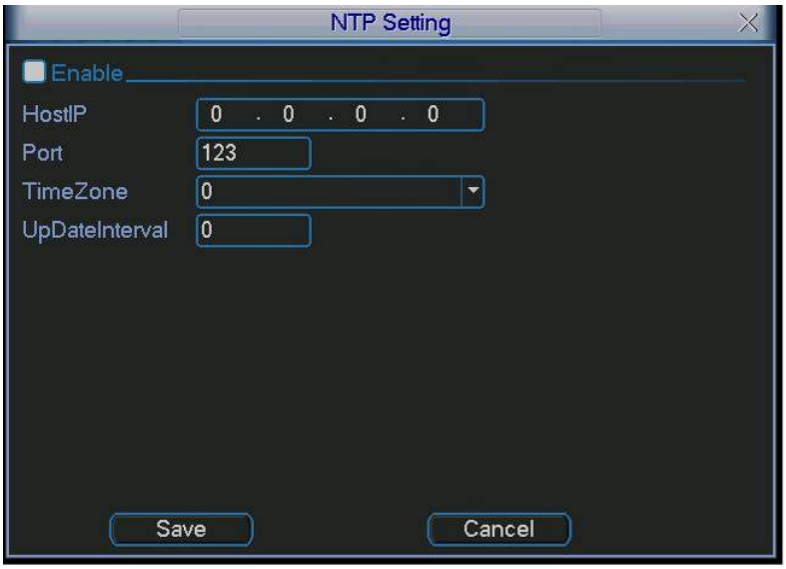


Figure 5-13

5.3.6 Alarm

Please refer to chapter 4.6 Alarm Setup and Activation.

5.3.7 Detect

Please refer to chapter 4.5 Detect.

5.3.8 Pan/Tilt/Zoom

The pan/tilt/zoom setup includes the following items. Please select channel first. See Figure 5-14.

- Protocol: select corresponding PTZ protocol such as DH-SD1.
- Address: input corresponding PTZ address.
- Baud rate: select baud rate.
- Data bit: select data bit.
- Stop bit: select stop bit.
- Parity: there are three choices: none/odd/even.

After all the setups please click save button, system goes back to the previous menu. For detailed setup, please refer to chapter 4.9 preset/patrol/pattern/scan.

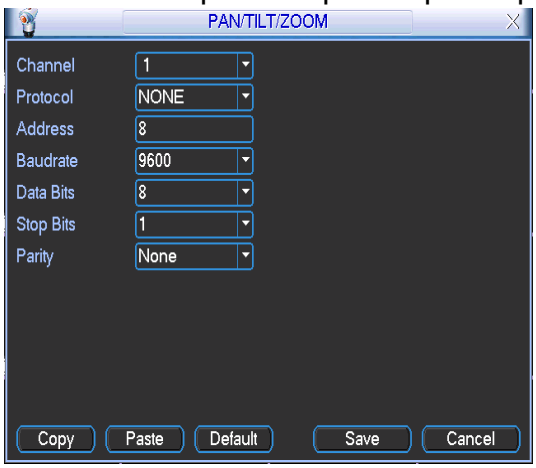


Figure 5-14

5.3.9 Display

Display setup interface is shown as below. See Figure 5-15.

- Transparency: Here is for you to adjust transparency. The value ranges from 128 to 255.
- Channel name: Here is for you to modify channel name. Please note all your modification here only applies to DVR local end. You need to open web or client end to refresh channel name.
- Time display: You can select display time or not.
- Channel display: You can select channel name or not.
- Overlay information: System displays some information in the screen for your reference.
- Enable tour: activate tour function.
- Interval: Input proper interval value here. The value ranges from 5-200 seconds. In tour process, you can use mouse or click Shift to turn on window switch function. Stands for opening switch function, stands for closing switch function.
- View1/4/9/16: System support 1/4/9/16 window tour.

Please highlight icon to select the corresponding function.
After all the setups please click save button, system goes back to the previous menu.

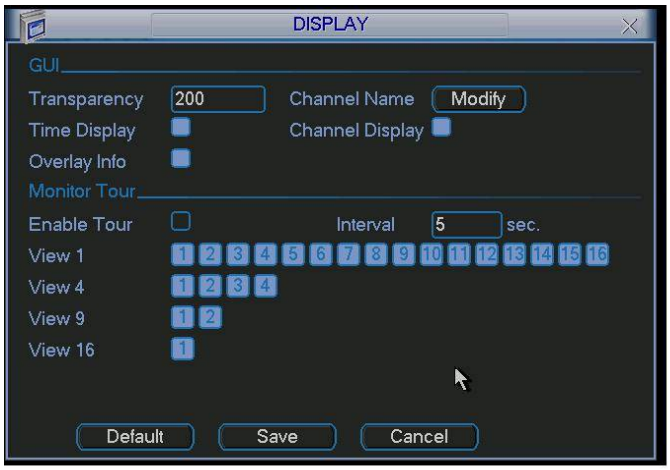


Figure 5-15

5.3.10 Default

Click default icon, system pops up a dialogue box. You can highlight to restore default factory setup. See Figure 5-16.

- Select all
- General
- Encode
- Schedule
- RS232
- Network
- Alarm
- Detect

- Pan/tilt/zoom
- Display
- Channel name

Please highlight icon to select the corresponding function.

After all the setups please click save button, system goes back to the previous menu.

Warning!

System menu color, language, time display mode, video format, IP address, user account will not maintain previous setup after default operation!

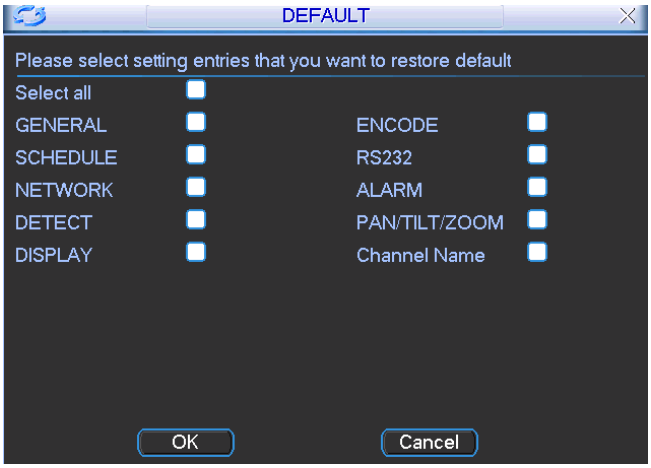


Figure 5-16

5.4 Search

Please refer to chapter 4.3 Search.

5.5 Advanced

Double click advanced icon in the main window, the interface is shown as below. See Figure 5-17. There are totally seven function keys: hard disk management, alarm output, alarm input, manual record, account, auto maintain, and TV adjust.

Figure 5-17

5.5.1 Hard Disk Management

Here is for you to view and implement hard disk management. See Figure 5-18.

You can set proper mode for each hard disk from the dropdown list.
When you use redundant backup function, you can set one or more redundant HDD(s).
Please note you need to set at least one read-write disk, otherwise system will not record video. For detailed information you can refer to chapter 4.4 Schedule.
After all the setups please click save button, system needs to reboot to get all the modification activated.

Figure 5-18

Click alarm set button, the interface is shown as below. See Figure 5-19.

Please highlight icon ☐ to select the corresponding function.
You can enable one or more alarm setups. The lower limit ranges from 1% to 99%. Alarm channel number ranges from 1 to 6. Delay value is from 0 to 240 seconds.
Please note when HDD capacity is not full system only alarms once!
After all the setups please click OK button, system goes back to the previous menu

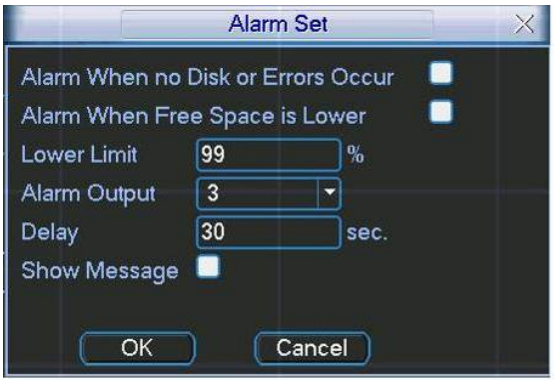


Figure 5-19

5.5.2 Alarm Output

Here is for you to set proper alarm output.

Please highlight icon ☐ to select the corresponding alarm output.

After all the setups please click OK button, system goes back to the previous menu. See Figure 5-20.

Figure 5-20

5.5.3 Alarm Input

Here is for you to set alarm input.

Please highlight icon to select the corresponding input channel.
After all the setups please click save button, system goes back to the previous menu. See Figure 5-21.

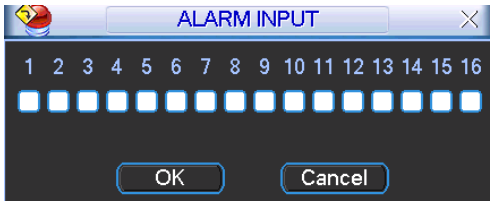


Figure 5-21

5.5.4 Manual Record

Please refer to chapter 4.2.2 manual record.

5.5.5 Account

Here is for you to implement account management. See Figure 5-22. Here you can:

- Add new user
- Modify user
- Add group
- Modify group
- Modify password.

For account management please note:

- System account adopts two-level management: group and user. No limit to group or user amount.
- For group or user management, there are two levels: admin and user.
- The user name and group name can consist of eight bytes. One name can only be used once. There are four default users: admin/888888/666666 and hidden user “default”. Except user 6666, other users have administrator right.
- Hidden user “default” is for system interior use only and can not be deleted. When there is no login user, hidden user “default” automatically login. You can set some rights such as monitor for this user so that you can view some channel view without login.
- One user should belong to one group. User right can not exceed group right.

- About reusable function: this function allows multiple users use the same account to login.

After all the setups please click save button, system goes back to the previous menu.

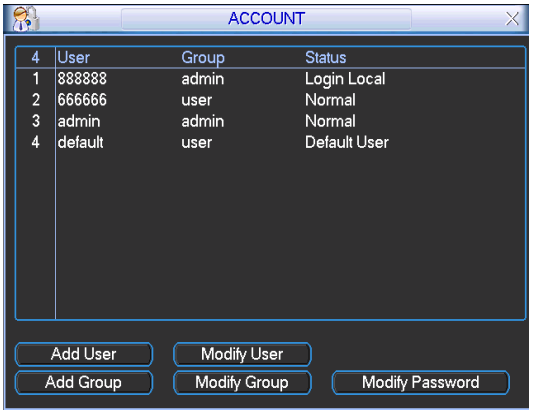


Figure 5-22

5.5.6 Auto Maintain

Here you can set auto-reboot time and auto-delete old files setup. See Figure 5-23.
You can select proper setup from dropdown list.
After all the setups please click save button, system goes back to the previous menu.

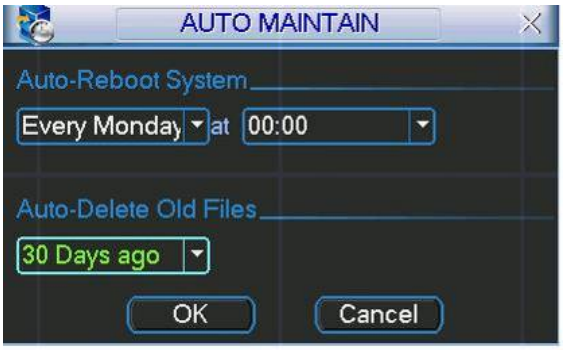


Figure 5-23

5.5.7 TV Adjust

Here is for you to adjust TV output setup. See Figure 5-24.
Please drag slide bar to adjust each item.
After all the setups please click OK button, system goes back to the previous menu.

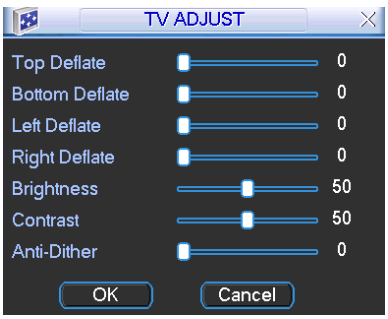


Figure 5-24

5.5.8 Video Matrix (For GBEL Series and GBEH Series)

Some series DVR have the matrix and loop outputs.

5.5.8.1 Loop outputs

They are just the same with video distributors. There are 16-ch video loop outputs from our DVR. The DVR video output can connect with other devices such as TV walls, analog matrix and so on.

5.5.8.2 Matrix outputs

They are like the small-scale matrix. You can select any camera from our DVR to switch. And the output can also tour between the cameras. So the matrix outputs can be used to build TV walls and tour and display the cameras one by one.

5.5.8.3 Rear Panel Connection

The rear panel is shown as below. See Figure 5-25.

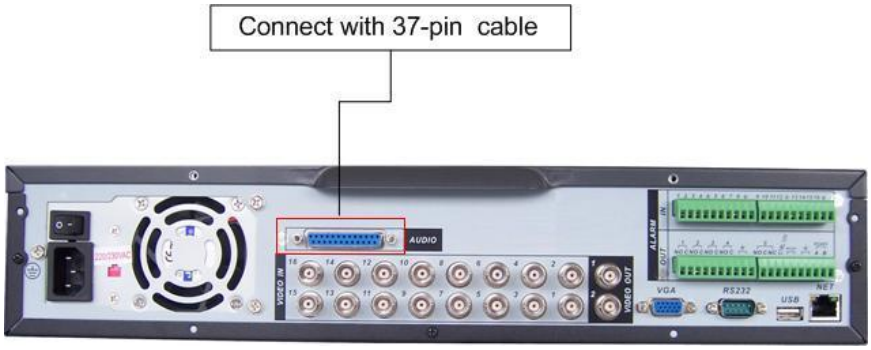


Figure 5-25

5.5.8.4 37-pin cable introduction

There are three colors cable. See Figure 5-26.

- Black: for loop outputs, there are 16-ch loop outputs
- Blue: for matrix outputs, there are 4-ch matrix outputs
- White: for bi-direction talk, one is for audio in and the other is for audio out.

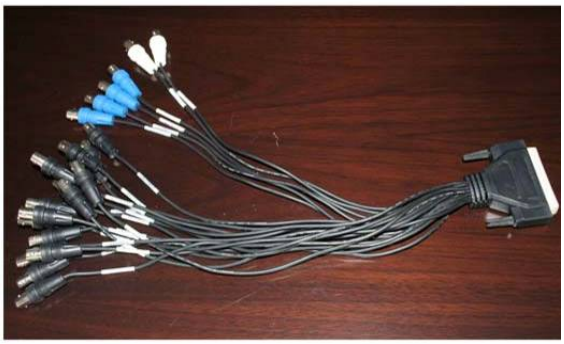


Figure 5-26

5.5.8.5 Matrix setup

5.5.8.5.1 Enter the Menu of Video Matrix

In the menu, from “Advanced” to “Video Matrix” . See Figure 5-27.

Figure 5-27

5.5.8.5.2 Right mouse menu

In one-window display mode, right click mouse to select “Video Matrix”. See Figure 5-28.

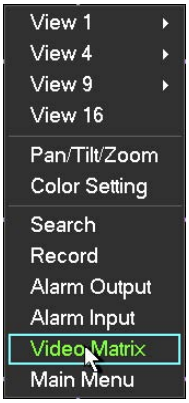


Figure 5-28

5.5.8.6 Video Matrix Interface and Application

The video matrix interface is shown as in Figure 5-29.

Now GBEL series support 4-channel matrix outputs and GBEH series support 1 channel matrix output. All the operation below based on GBEL series DVR.

You can set for each channel. The function consists of two types.

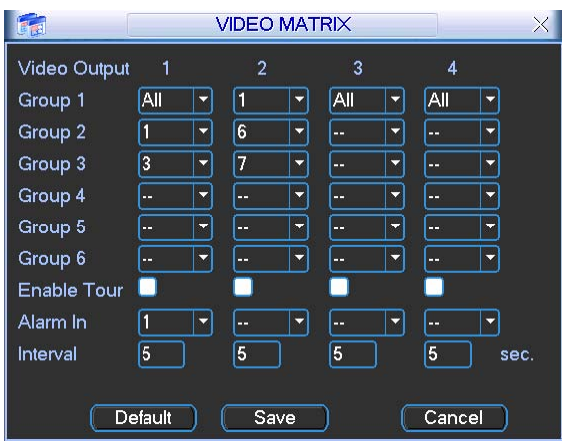


Figure 5-29

5.5.8.6.1 Single Tour

Please enable tour function. Then set interval time and select corresponding cameras. You can select “ALL” to tour between all channels. Please note only Group 1 supports “ ALL “function.

Note:

- ”- -“means that there is no alarm activation tour.
- If you have selected the “ALL” for the matrix output in Group 1, the matrix output will tour only between all cameras and the other groups setting will be null.

5.5.8.6.2 Alarm Tour

Select the “alarm in” channel number from the dropdown list. If there is an alarm signal from the channel selected, the matrix output will go to tour as you set in the “Alarm” setting (Main Menu->Setting->Alarm). See Figure 5-30.

Alarm tour has higher priority than single tour during this period, the single tour will stop. After alarm activation tour, the matrix output will continue single tour.

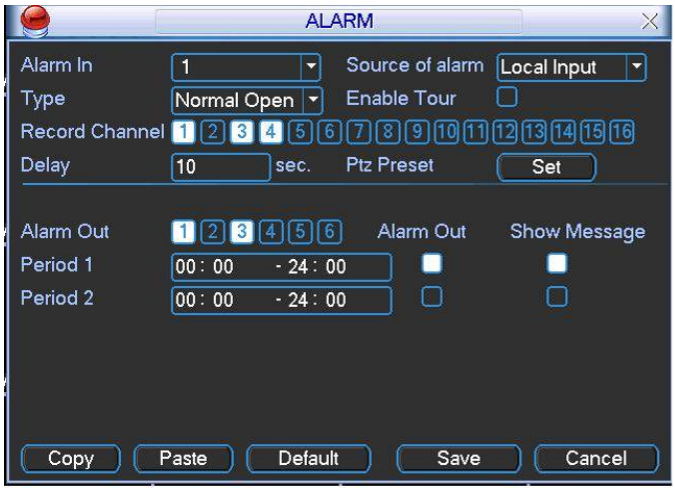


Figure 5-30

5.5.8.7 Examples

5.5.8.7.1 Example one

In Figure 5-31, matrix outputs”1”, “3”, “4” tour between all cameras of the DVR. Matrix output 2 tours between “CAM1, CAM6 and CAM7” of the DVR. The interval is five seconds.

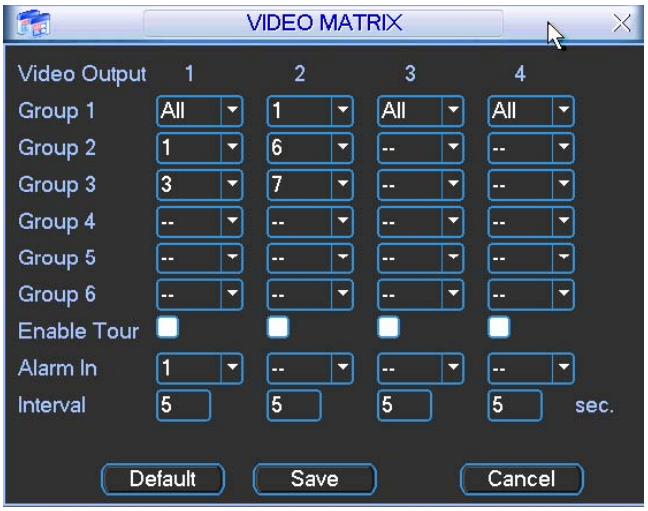


Figure 5-31

5.5.8.7.2 Example two

In Figure 5-32, when alarm occurs in channel one, the activated matrix output one begins touring between CAM1, CAM3 and CAM4 of the DVR until alarm activation tour stops.

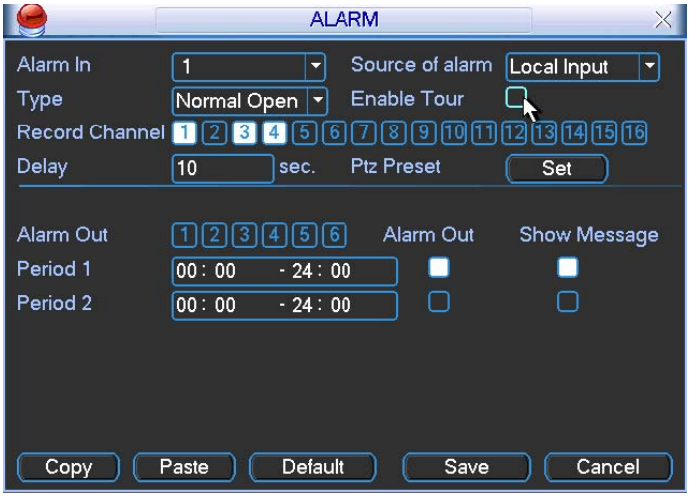


Figure 5-32

5.6 Information

Here is for you to view system information. There are totally five items: HDD (hard disk information), BPS (data stream statistics), Log and version, and online user. See Figure 5-33.

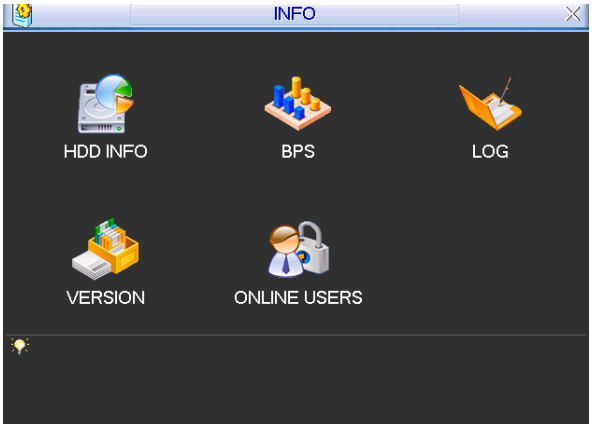


Figure 5-33

5.6.1 Hard Disk Information

Here is to list hard disk type, total space, free space, video start time and status. See Figure 5-34.

Note:

Please remove the broken hard disk before you add a new one.

Once there is a hard disk confliction, please check hard disk time and system time is the same or not. Please go to setting then general to modify system time. At last, reboot the system to solve this problem.

In IDE information column, ○means OK，X means error occurred 、- means there is no disk.

The serial number after the disk information such as ○,which means it is current working disk.

If disk is damaged, system shows as “?”

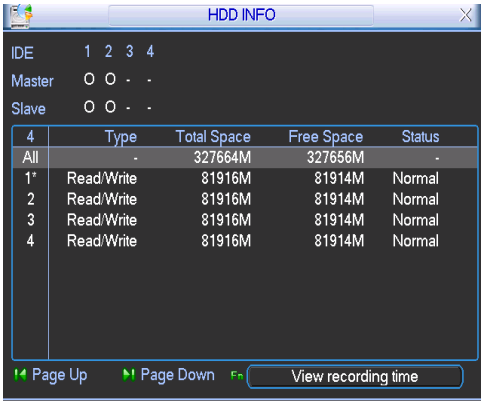


Figure 5-34

5.6.2 BPS

Here is for you to view current video data stream (KB/s) and occupied hard disk storage (MB/h). See Figure 5-35.

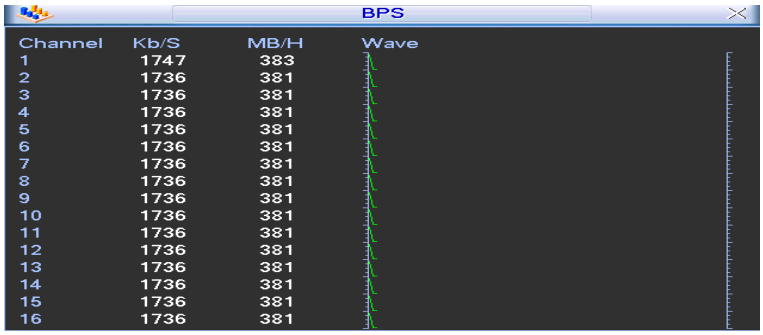


Figure 5-35

5.6.3 Log

Here is for you to view system log file. System lists the following information. See Figure 5-36.

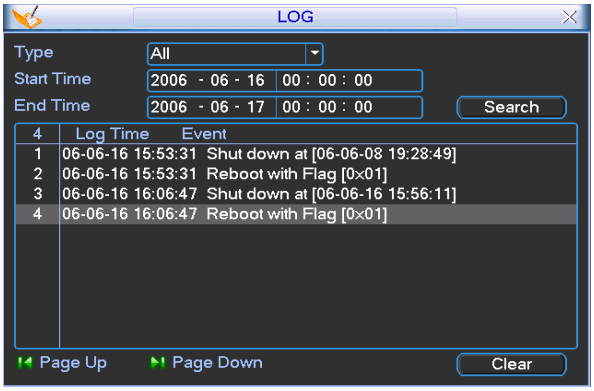


Figure 5-36

5.6.4 Version

Here is for you to view some version information. See Figure 5-37.

- Channel
- Alarm in
- Alarm out
- System version:
- Baud rate:
- Start upgrade

Figure 5-37

5.6.5 Online Users

Here is for you manage online users. See Figure 5-38.

You can disconnect one user or block one user if you have proper system right.

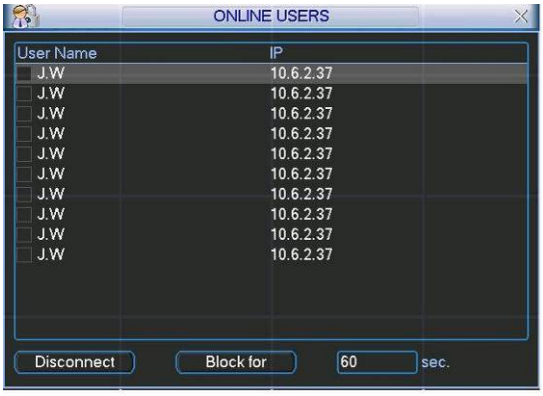


Figure 5-38

5.7 Exit

Double click exit button, system pop up a dialogue box for you to select. See Figure 5-39.

- Logout menu user: log out menu. You need to input password when you login the next time.
- Restart application: reboot DVR.
- Shutdown: system shuts down and turns off power.
- Restart system: system begins rebooting.

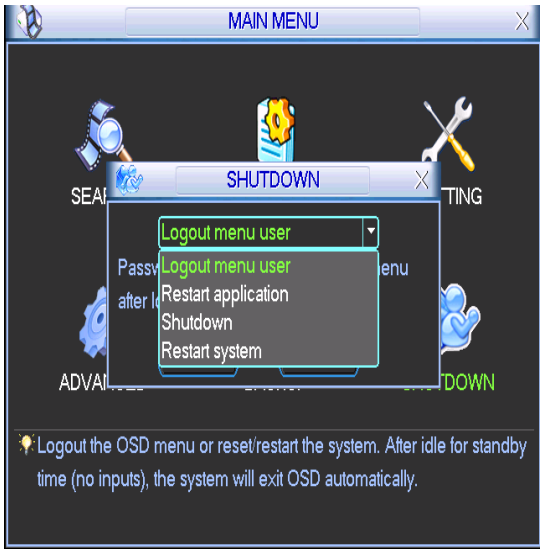


Figure 5-39

6 About Auxiliary Menu

6.1 Go to Pan/Tilt/Zoom Menu

In the one-window surveillance mode, right click mouse (click “fn” Button in the front panel or click AUX key in the remote control). The interface is shown as below: See Figure 6-1.

Figure 6-1

Click Pan/Tilt/Zoom, the interface is shown as in Figure 6-2.

Here you can set the following items:

- Zoom
- Focus
- Iris

Click icon and to adjust zoom, focus and Iris.

Figure 6-2

In Figure 6-2, please click direction arrows (See Figure 6-3) to adjust PTZ position. There are totally eight direction arrows. (Please note there are only four direction arrows in DVR front panel.)

Figure 6-3

6.1.1 3D Intelligent Positioning Key

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 6-4 . Click this button, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size.

Figure 6-4

Here is a sheet for you reference.

Name	Function key	function	Shortcut key	Function key	function	Shortcut key
Zoom		Near	▶		Far	▶▶
Focus		Near	◀		Far	▶
Iris		close	II ◀		Open	▶ II

6.2 Preset /Patrol / Pattern /Border Function

In Figure 6-2 click the set button. The interface is shown as below:
Here you can set the following items:

- Preset
- Patrol
- Pattern
- Border

Figure 6-5

In Figure 6-2, click page switch button, you can see an interface as in Figure 6-6.
Here you can activate the following functions:

- Preset
- Patrol
- Pattern
- Aux on
- Aux off
- Auto scan
- Auto pan
- Light on

Figure 6-6

6.2.1 Preset Setup

Note: The following setups are usually operated in the Figure 6-2, Figure 6-5 and Figure 6-6.

In Figure 6-2, use eight direction arrows to adjust camera to the proper position.

In Figure 6-5, click preset button and input preset number. The interface is shown as in Figure 6-7.

Add this preset to one patrol number

Figure 6-7

6.2.2 Activate Preset

In Figure 6-6 please input preset number in the No. blank, and click preset button.

6.2.3 Patrol Setup

In Figure 6-5, click patrol button. The interface is shown as in Figure 6-8.

Input preset number and then add this preset to one patrol.

Figure 6-8

6.2.4 Activate Patrol

In Figure 6-6, input patrol number in the No. blank and click patrol button

6.2.5 Pattern Setup

In Figure 6-5, click pattern button and then click begin button. The interface shows like Figure 6-9.

Please go to Figure 6-2 to modify zoom, focus, and iris. Go back to Figure 6-9 and click end button.
You can memorize all these setups as pattern 1.

Figure 6-9

6.2.6 Activate Pattern Function

In Figure 6-6 input mode value in the No. blank, and click pattern button.

6.2.7 Border Setup

In Figure 6-5, click border button. The interface is shown as in Figure 6-10.
Please go to Figure 6-2, use direction arrows to select camera left limit, and then please go to Figure 6-10 and click left limit button
Repeat the above procedures to set right limit.

Figure 6-10

6.2.8 Activate Border Function

In Figure 6-6, click auto scan button, the system begins auto scan. Correspondingly, the auto scan button changes to stop button.
Click stop button to terminate scan operation.

6.3 Dome Menu Control

In Figure 6-6, click page switch button, the interface is shows as below. See Figure 6-11
Click menu to enter dome menu. The direction arrows here are to control dome menu.
Click page switch button, system goes back to Figure 6-2.

Figure 6-11

7 WEB CLIENT OPERATION

Please note, all the operation here in chapter seven is using 16-ch DVR as an example.
There might be slightly difference in the interface due to different series.

7.1 Network connection

Before web client operation, please check the following items:

- Network connection is right
- DVR and PC network setup is right. Please refer to network setup(main menu->setting->network)
- Use order ping ***.***.***.***(* DVR IP address) to check connection is OK or not. Usually the return TTL value should be less than 255.

7.2 Login and logout

Open IE and input DVR address in the address column. For example, if your DVR IP is 10.1.27.200, then please input http:// 10.1.27.200 in IE address column.
System pops up warning information to ask you whether install webrec.cab control or not. Please click yes button.
If you can't download the ActiveX file, please modify your settings as follows. See Figure 7-1.

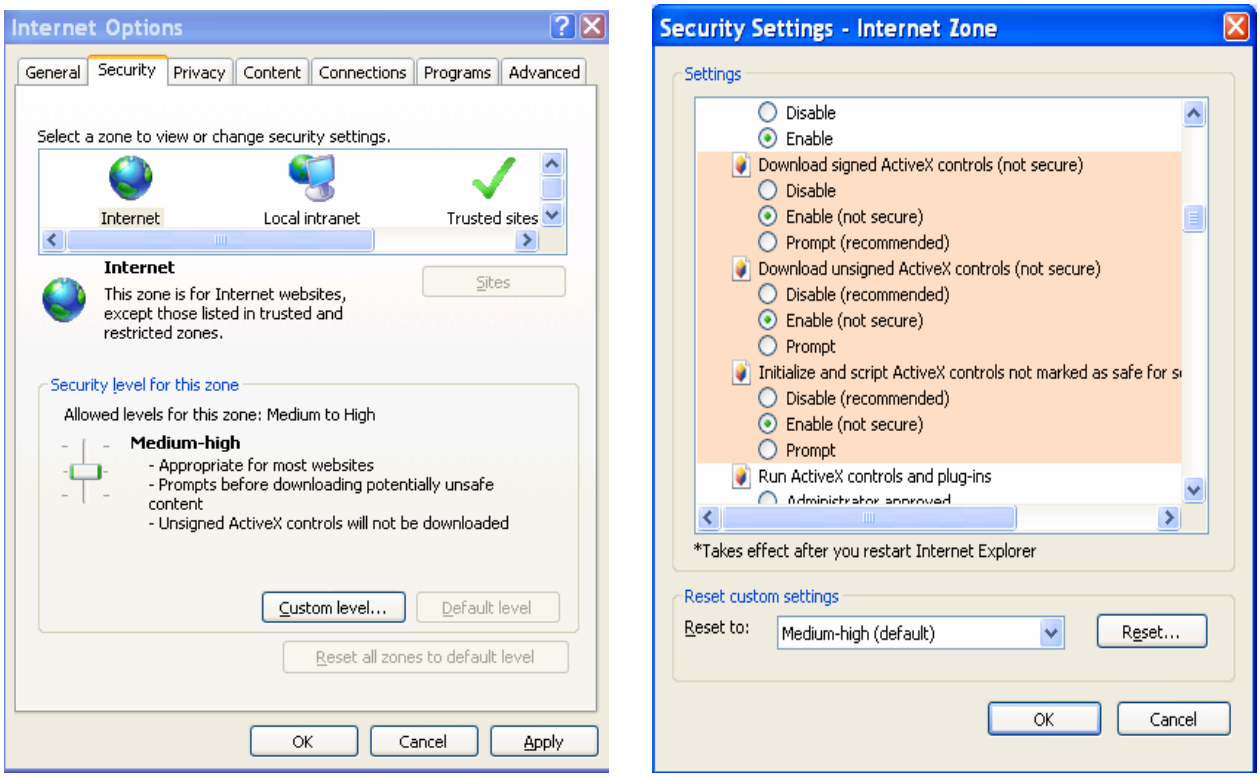


Figure 7-1

After installation, the interface is shown as below. See Figure 7-2.

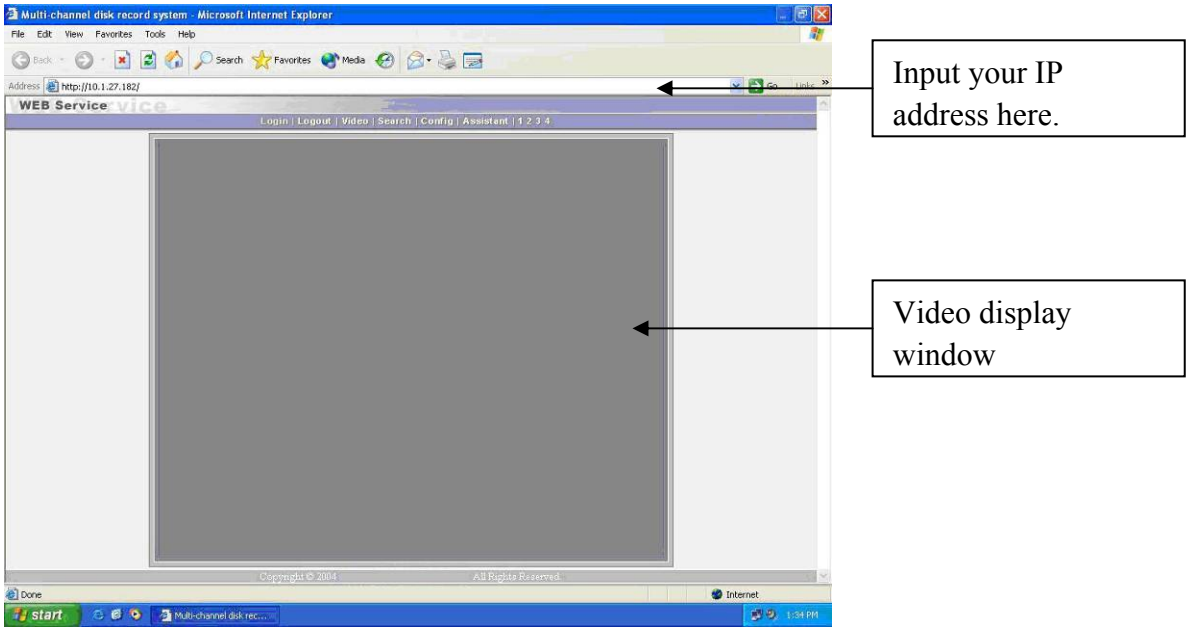


Figure 7-2

There are six function keys: login, logout, video, search, configuration and assistant. See Figure 7-3.

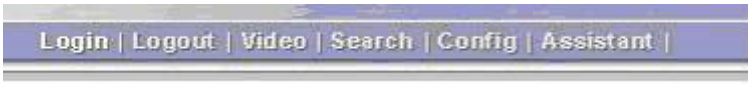


Figure 7-3

Click login the following interface will pop up. See Figure 7-4. Please input your user name and password.
Default factory name is admin and password is admin.
Note: For security reasons, please modify your password after you first login.

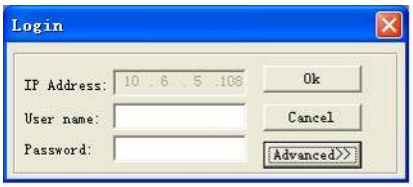


Figure 7-4

7.3 Go to Real-time Monitor Mode

There are three ways for you to go to real-time monitor mode.

- Select the channel number besides function key. See Figure 7-5.

Figure 7-5

- In Figure 7-5, click “video” button then select real-time monitor, click the channel number you want to view.

- In the main window, right click mouse, select the channel you want to view from real-time monitor.

7.4 Video (Right Mouse Menu Operation)

After login, click video button or right click mouse, the interface is shown as below. See Figure 7-6.

- Real-time monitor: choose the channel you want to view.
- Start dialogue: click here to begin audio talk.
- Multi-camera preview: System supports various video preview modes.
- Decode quality: there are totally four levels: general, good, better and best.
- Playback control bar: here is for you to control playback.
- PTZ control: Here is for you to control PTZ movement. Before operate, please make sure you have selected right pan-title protocol for DVR
- Volume adjustment: here is for you to adjust PC audio volume.
- Alarm setting: here is for you to set alarm input and alarm output.
- Network data flux: here is for you to view current data flux
- Full screen: enter into full screen display mode.
- Video zoom: there are four options:20%,40%,60%,80%,100%
- Video windows: Support 1/2/4 window display mode.

Figure 7-6

7.4.1 Real time Monitor

Here is for you to select the channel you wan to implement real-time monitor.

7.4.2 Multi-camera Preview

Here is for you to select view modes: 1/2/3/4/9/16.

7.4.3 Start Dialog

Click this button to enable audio talk function.

7.4.4 Decode Quality

Here is for you to select decode quality. There are totally four levels: general, good, better and best.

7.4.5 Playback Control Bar

Here is the playback bar when you are viewing video file. See Figure 7-7.

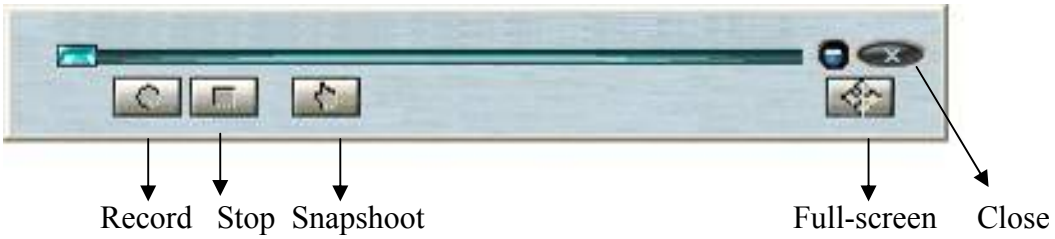


Figure 7-7

7.4.6 PTZ Control

Please click the corresponding direction arrow to adjust zoom, focus and iris. See Figure 7-8.

Note: before you operate this function, please make sure you have properly set PTZ protocol (Main menu->Setting->Pan-tilt Zoom).

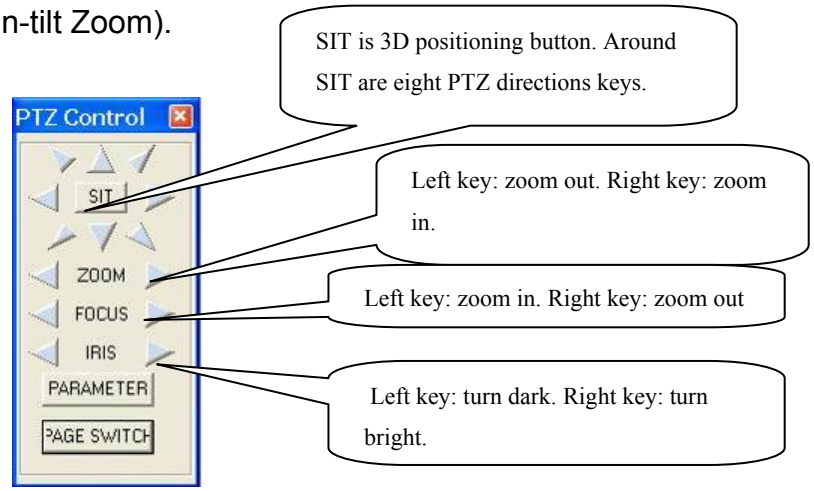


Figure 7-8

Click parameter button in Figure 7-8. The interface is shown as below. See Figure 7-9.

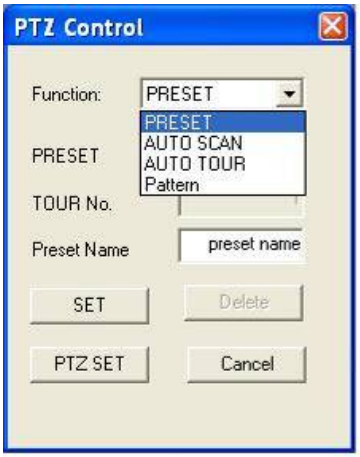


Figure 7-9

Here is for you to control direction operation. There are eight levels ranging from 1 to 8. Level 8 is the fastest speed.

In Figure 7-9, click PTZ set button. You can see the following dialogue box. See Figure 7-10. You can select in the dropdown list.

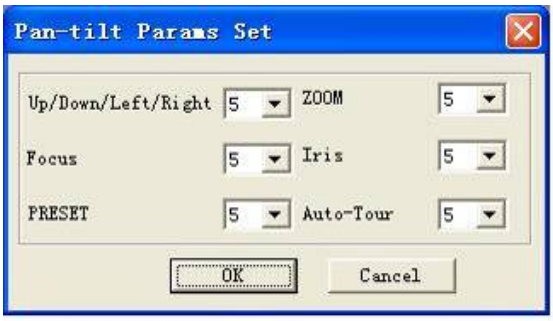


Figure 7-10

7.4.7 Volume Adjustment

Please drag volume bar to adjust audio level. You can draw a √ before Mute to turn off audio. See Figure 7-11.

Figure 7-11

7.4.8 Alarm Setting

Click alarm setting, you can set alarm input and output. See Figure 7-12.

Figure 7-12

7.4.9 Network Data Flux

Here is to display the statistics of the network transmission data flux. See Figure 7-13.

Figure 7-13

7.4.10 Full Screen

There are two ways to view full screen monitor: One is to double click on the current monitor window directly; the other is to select Full screen in the right click menu items.

During multi-window state, choose one of the windows and double click for full screen display.

7.4.11 Resize Video

There are four display ratios for you to choose: 40%, 60%, 80% and 100%. See Figure 7-14.

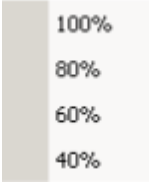


Figure 7-14

7.4.12 Video Windows

Here is for you to choose display mode. See Figure 7-15.

Figure 7-15

7.5 Search

Here you can select video type, channel number and time to search the file you want. Click search button, the interface is shown as below. See Figure 7-16

Please use page up/down key to view the search results.

Double click file name, you can view the file and system will automatically backup the image in you installation directory.

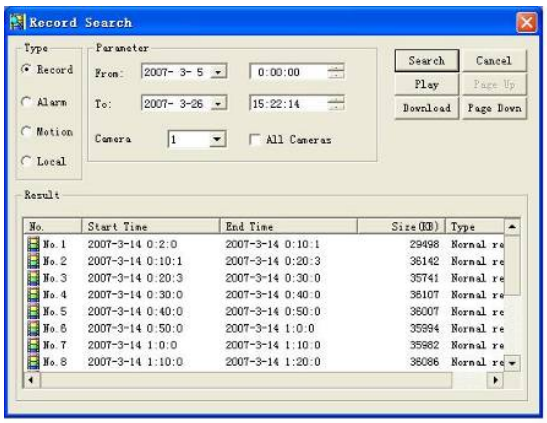


Figure 7-16

In the search result interface, you can select one or more files to download to your local PC.
The playback bar is shown as below. See Figure 7-17.
1: Save
2: Stop
3: Snapshoot
4: Fast Backward
5: Play
6: Pause
7: Fast play
8: Hide
9. Full-screen
10. Close

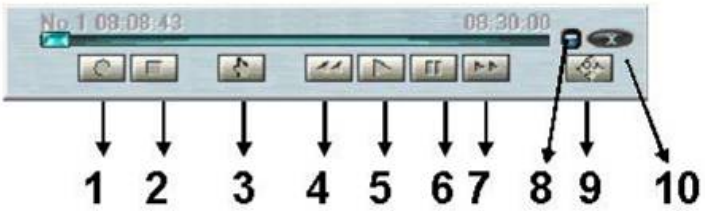


Figure 7-17

7.5.1 Download

You can select one or more files you want to download and then click down load button. System pops up a dialogue box asking you specify directory. See Figure 7-18.

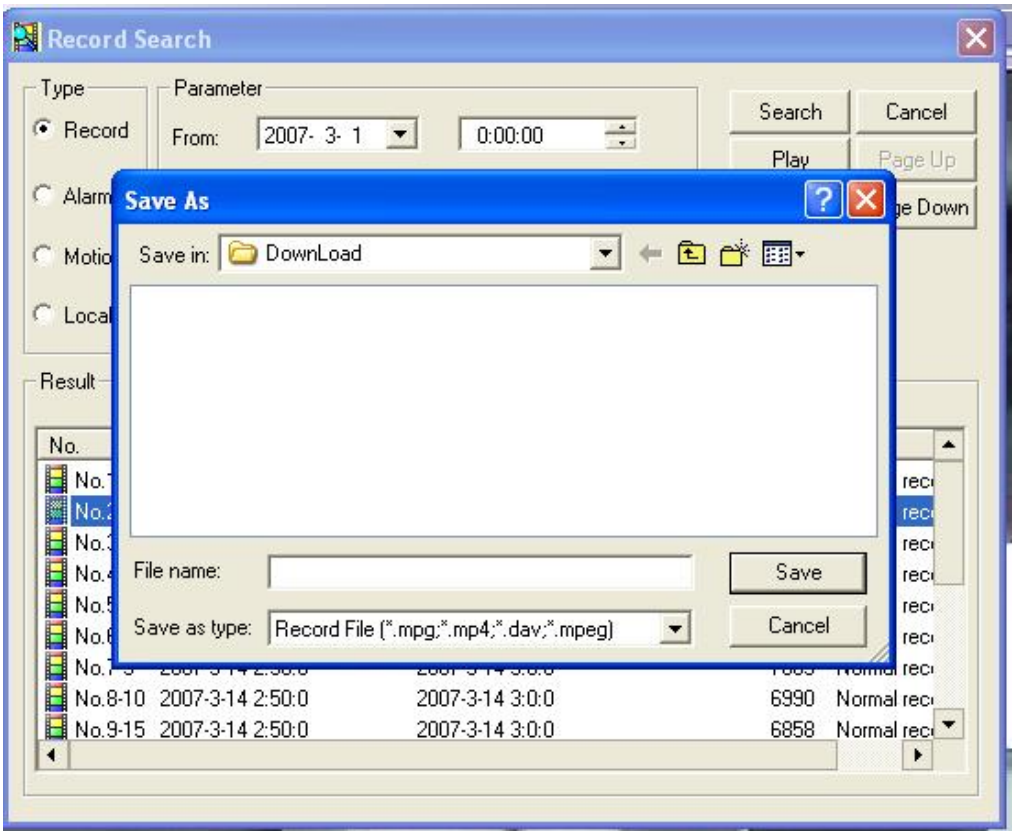


Figure 7-18

Then you can input file name and click save to backup file in your local pc. During the download process, there is a process bar for you reference. See Figure 7-19.

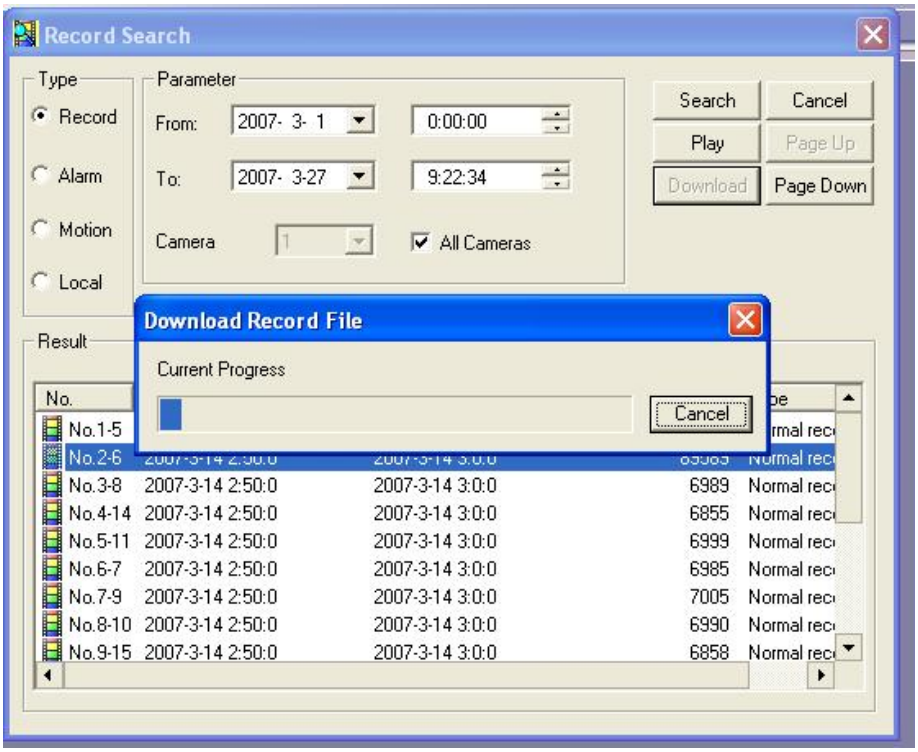


Figure 7-19

Download file name is usually made up of: file name +Channel N +date +time. File extension name is .dav.

For example: file name a-0120021205071028.mp4 means:

- 01: channel 1
- 20021205: 5th December,2002
- 071028 :7 o'clock 10 minutes 28 seconds.

7.6 Configure

Click configure button, there are totally seven function keys. See Figure 7-20.

- Image
- Alarm
- Motion detection
- Network
- Video parameter
- General
- Schedule

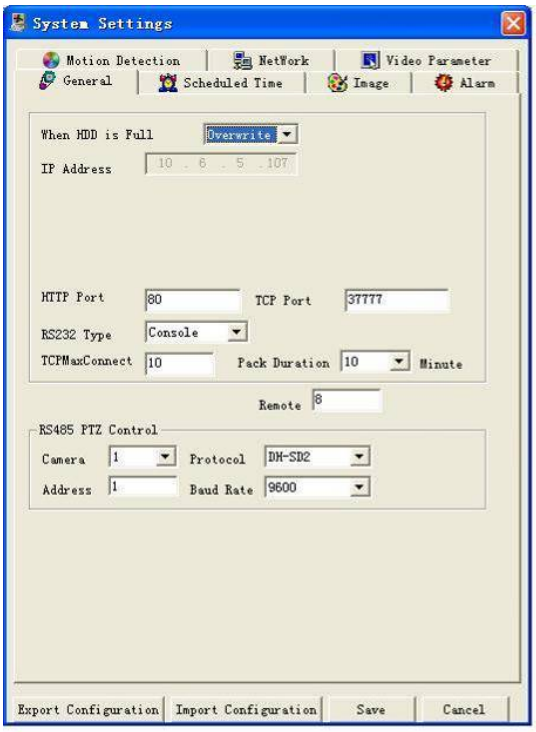


Figure 7-20

7.6.1 Load and Save Configuration

7.6.1.1 Save configuration

Click export configuration button in Figure 7-20.You can save current configuration to a directory. The file extension name is CFG. See Figure 7-21.

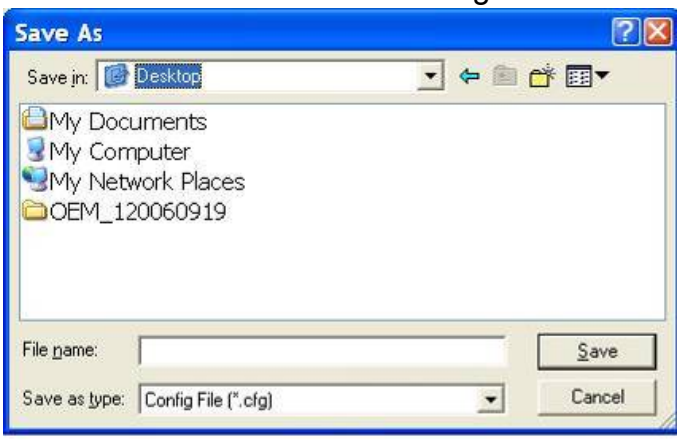


Figure 7-21

7.6.1.2 Load configuration

Click import configuration button in Figure 7-20.You can draw a √ before checkbox to load you previously backup file. See Figure 7-22.Click Ok button and then select file of extension name .CFG. Now you have updated system setup.

Figure 7-22

7.6.2 General

Click general button, the interface is shown as below. See Figure 7-23.

Here you can select file length, and choose overwrite the previous file or stop recording when disk is full.

You can select channel number, protocol, address and baud rate to control the lens or PTZ.

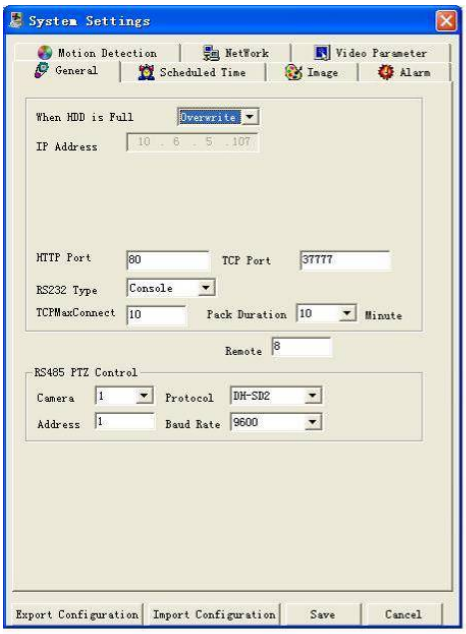


Figure 7-23

7.6.3 Schedule

Click schedule button, the interface is shown as in Figure 7-24.

Here you can draw a √ before Sunday to Saturday. And then set various time periods (from 0 to 24 o'clock).

You can draw a √ to enable record type: record/motion/alarm.

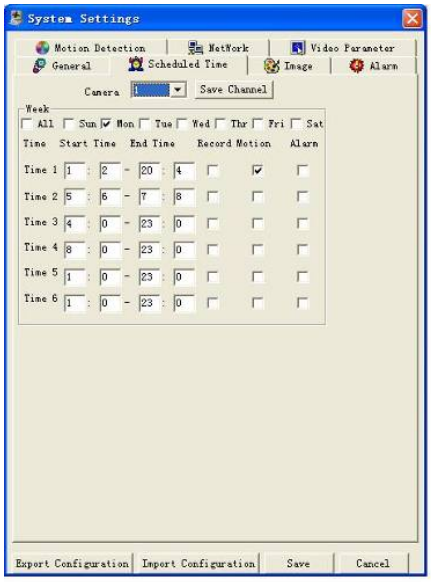


Figure 7-24

7.6.4 Image

Click image button, the interface is shown as below. See Figure 7-25.
Here you can select the image quality and protocols for each channel.
Here you can set encode mode, quality and protocol for each channel. You can select from the dropdown list.

- FPS (PAL): there are several options: 1/2/3/6/12/25. (Some series DVR only support 25f/s PAL.)
- Data: there are two data modes: CBR/VBR.
- Quality: There are six levels. The different data flux occupies different bandwidth and the transmission image qualities are also different. Among them, level 6 needs the widest bandwidth and can reveal the best image quality. Please note you setup here only applies for image quality in web or client end.
- Resolution: there are several resolutions for you. You can select from the dropdown list.
- Alarm when video loss: You can enable or disable alarm function when alarm loss occurred.
- Network transmission protocol: Select protocol for network playback and monitor. You can select from the dropdown list.

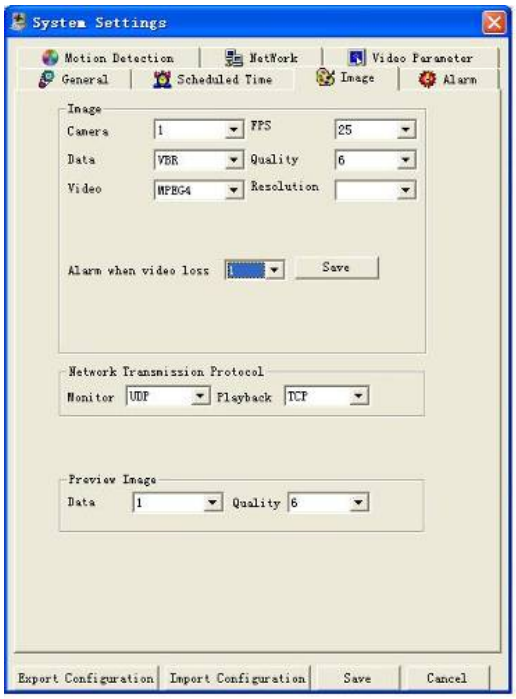


Figure 7-25

7.6.5 Alarm

Here is for you to choose record channel and output port. See Figure 7-26.
There are two alarm types: normal open or normal close.
Delay time ranges from 10 to 300 seconds.
You can draw a √ before the check box to enable record camera and output port.

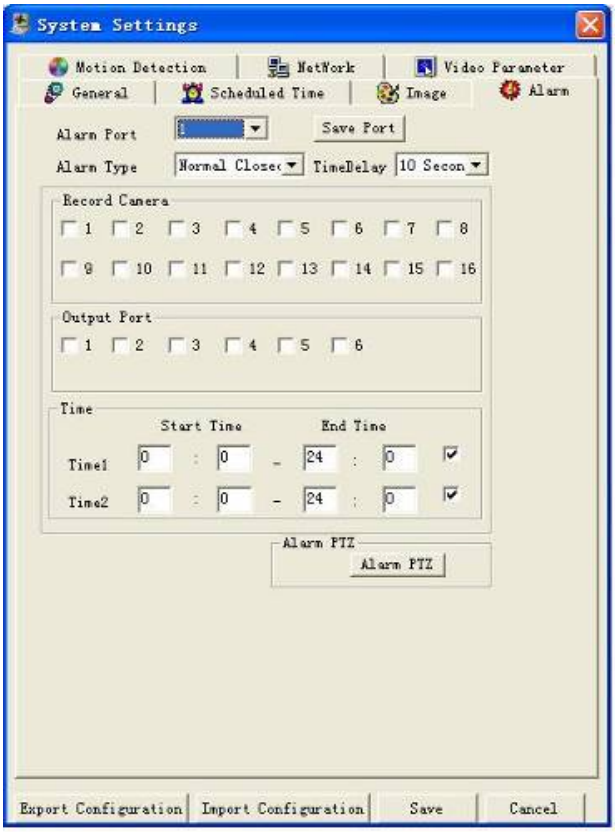


Figure 7-26

In Figure 7-26 click alarm PTZ button, you can see the following interface. See Figure 7-27.

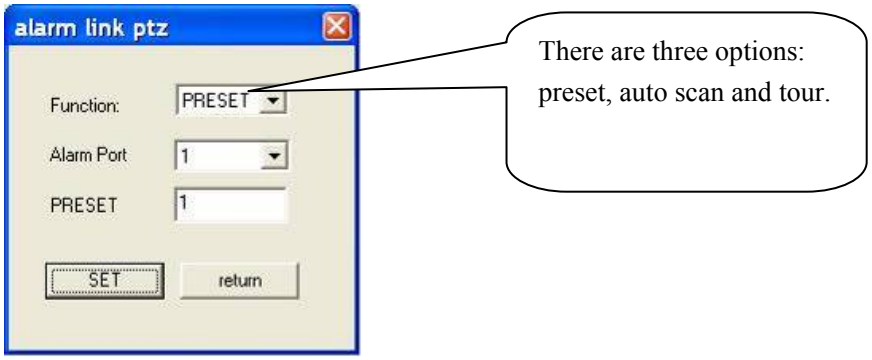


Figure 7-27

7.6.6 Motion Detection

Motion detection will take effect exclude the time you set to schedule recording. See Figure 7-28.

The blue area is the selected motion detection area.

Click **Full screen** or right click mouse to view the motion detection area in full screen.

After setting the area you can **Save channel** or **Clear** the area.

Alarm output：Here you can enable alarm output channel. Please draw a √ before the check box.

Please note if you want to set this channel as motion detection recording, you need to turn off the schedule recording setup for this channel (Main Menu->Setting->Schedule).

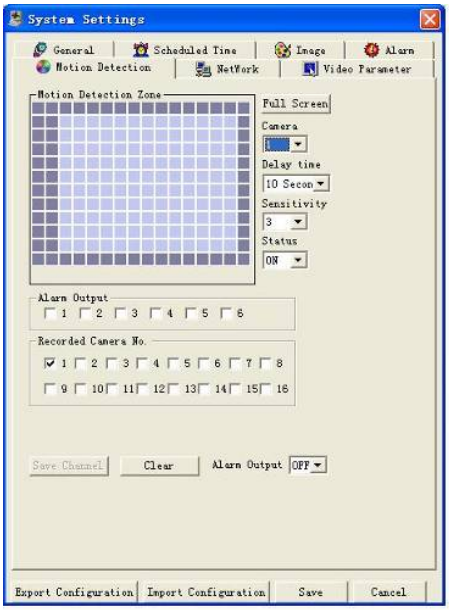


Figure 7-28

7.6.7 Network

Network interface is shown as in Figure 7-29.

7.6.7.1 PPPoE Connection

Set PPPOE as on, and then please input “PPPoE name” and “PPPoE password” you get from your ISP (Internet service provider).

After saving it, you need to restart to active your configuration.

After rebooting, IP camera will connect to internet automatically. The IP in the PPPoE IP is the dynamic value.

7.6.7.2 Web visit via PPPoE

There are two ways.

c. visit through current IP

After IP camera connected with Internet by PPPoE, please get your device’s current IP. Now you can visit this IP camera via this IP.

d. Visit via DNS

You need a PC of fixed IP in the internet and there is the DDNS software running in this PC. In other words, this PC is a DNS (domain name server).

In network DDNS, input your PPPoE name you get from you IPS and server IP (PC with DDNS) . Click save and then reboot system.

Click save button, system prompts for rebooting to get all setup activated.

After rebooting, open IE and input as below:

http：//(DDNS server IP)/(virtual directory name)/webtest.htm

e.g.: http：//10.6.2.85/DVR _DDNS/webtest.htm.)

Now you can open DDNSServer web search page.

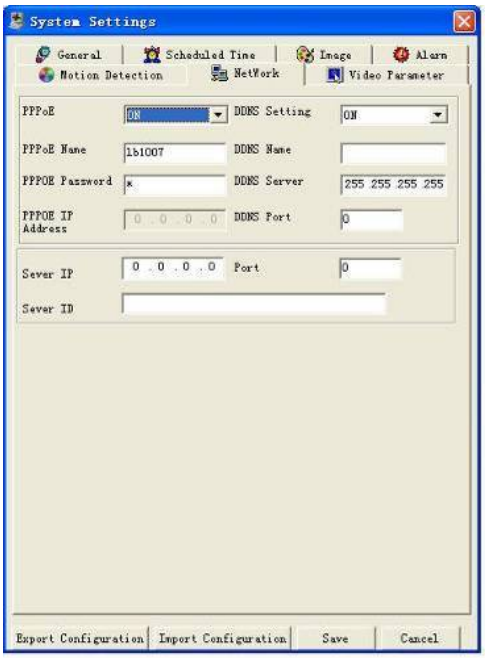


Figure 7-29

7.6.8 Video Parameter

Video parameter setup interface is shown as in Figure 7-30. Before setup please select channel number first

- Audio enable: You can select to close or open audio.

- Auto white balance: You can select to close or open white balance.
- Image: You can adjust color, contrast, brightness, saturation and etc.

After finishing all channels setup, you can click “save” at the button to save all configurations.

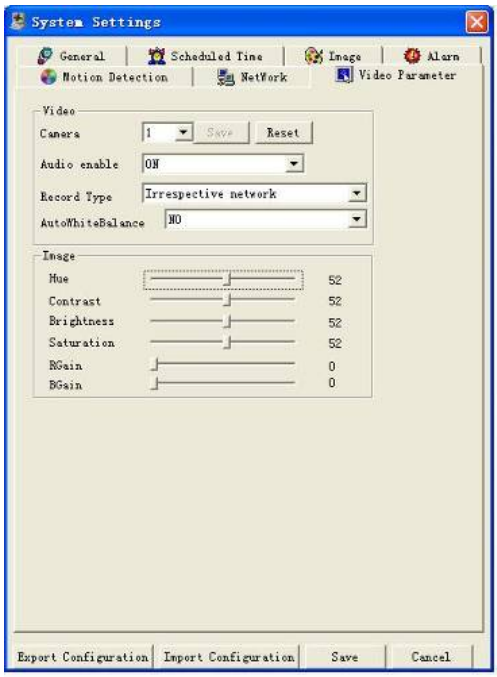


Figure 7-30

7.7 Assistant

Click assistant setting, the interface is shown as below. See Figure 7-31. There are nine function keys.

Please note Matrix control item only applies for some special series.

Figure 7-31

7.7.1 User Manage

Here is for you to manage users and user groups. See Figure 7-32. You can click ’+’ to see the whole group list.

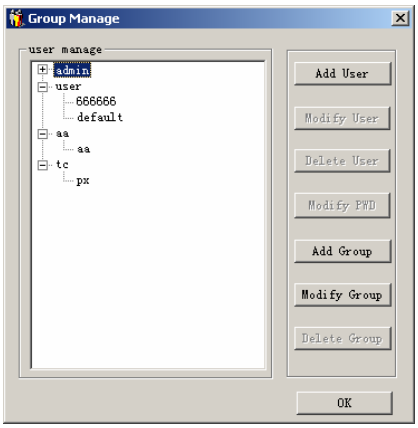


Figure 7-32

7.7.1.1 Add Group

Click “add group” button to input group name. See Figure 7-33.

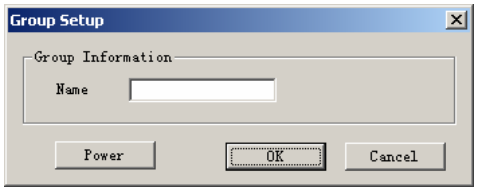


Figure 7-33

Click “Power” button to set group power.

Click “Save” button to save configuration

7.7.1.2 Delete Group

Click “Delete Group” button, the interface is shown as in Figure 7-34.

Note: You can only delete empty group (E.g.: There is no user in current group).

Figure 7-34

7.7.1.3 Modify Group

Click modify group, the interface is shown as in Figure 7-35. You can modify group name and then click “power” button to set proper right for the whole group.

Figure 7-35

7.7.1.4 Add User

Click “Add User” button the interface is shown as in Figure 7-36.

Input user name, password, and then input password again to confirm.

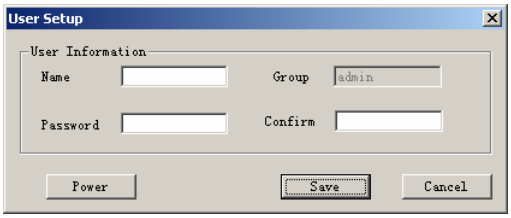


Figure 7-36

7.7.1.5 Power

When you add new user or new group (such as in Figure 7-33,Figure 7-36.), click “power” button, the interface is shown as in Figure 7-37. Here is for you to set user’s power.

There are three power groups: main control power/monitor power/playback power. You can draw a √ before the checkbox to enable corresponding function.

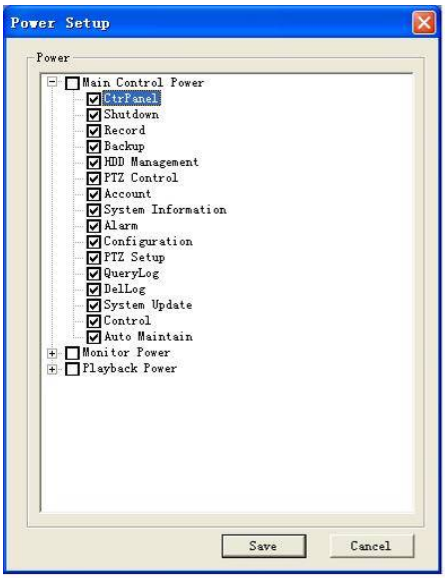


Figure 7-37

7.7.1.6 Modify user

Select one user and then click modify user button, the interface is shown as in Figure 7-38. Here you can modify user name.

Figure 7-38

7.7.1.7 Delete user

Select one user and then click “delete user” button, you can see the following dialogue box. See Figure 7-39. Click “Yes” to delete current user.

Figure 7-39

7.7.2 Record Control

Click “record control” button the interface is shown as below. See Figure 7-40. You can select mode for each channel.

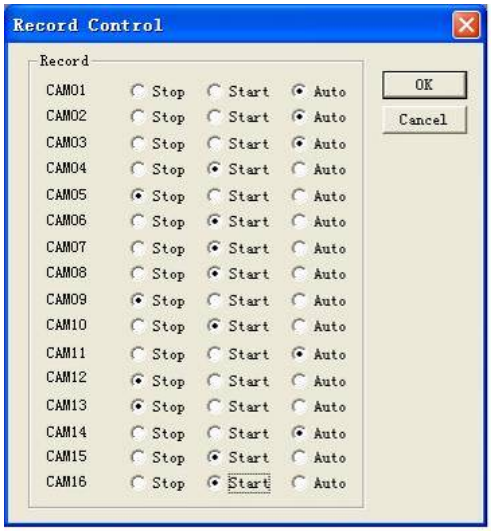


Figure 7-40

7.7.3 Log Information

System can automatically backup all operation in log information.

You can click this button to view detailed information. See Figure 7-41.

Once you click save log button, the log files will be automatically saved in the root directory such as “C:\ as a text file (e.g.: C:\ 10.1.27.193-log.txt)

Figure 7-41

7.7.4 Date and Time

Here you can modify system date and time. See Figure 7-42.

Figure 7-42

7.7.5 System Information

Here you can view basic information of the system. See Figure 7-43.

Here you can

- Turn on/off audio
- Select video type
- Select preview image
- Preview image
- Close or open auto tour monitoring
- View network data flux

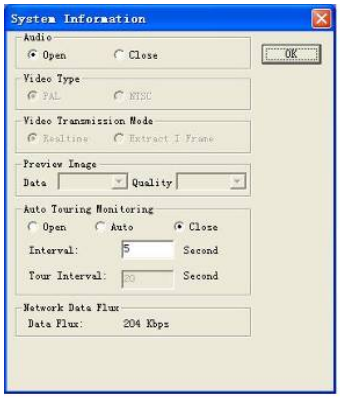


Figure 7-43

7.7.6 Alarm Prompt

Here is for you to choose different alarm audios. See Figure 7-44.

Here you can select system AlarmSound.wav file from folder system32 as your audio sound.

Figure 7-44

7.7.7 Channel Name

Here is for you to modify channel name.

The revised channel names will be displayed on the screen.

The default setting of the channel name is Channel No.1 to Channel No.16. See Figure 7-45.

Please note when you modify channel name in DVR end, this modification not applies to web end or standalone end, you need to use this interface to refresh.

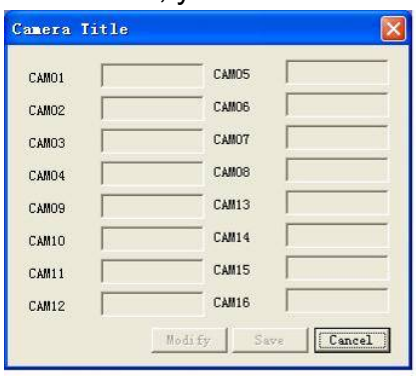


Figure 7-45

7.7.8 Upgrade BIOS

Click upgrade BIOS button, the interface is shown as below. See Figure 7-46.

Open the BIOS file (You can get from our local engineer or download from our web service) and then click send BIOS button.

During the upgrade process, there is a process bar for your reference.

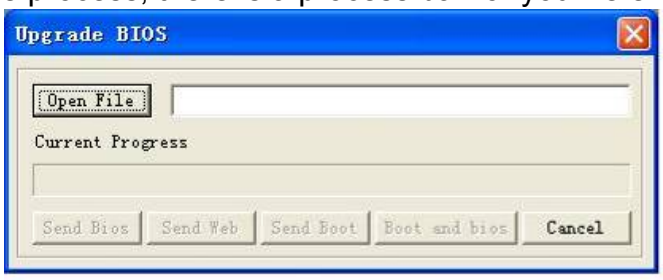


Figure 7-46

7.7.9 Reboot

Click reboot button, system pops up a warning dialogue box to alert you. See Figure 7-47.

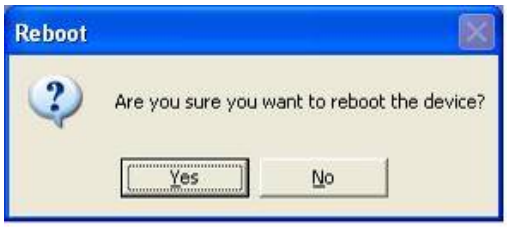


Figure 7-47

7.7.10 Matrix (Applies for some special series only)

Matrix control interface is shown as in Figure 7-48.

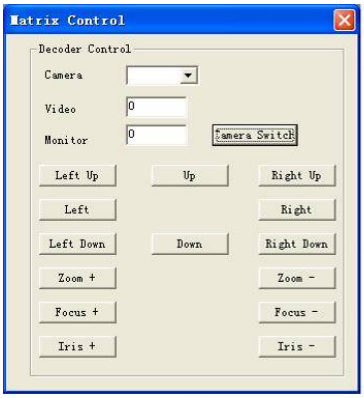


Figure 7-48

7.7.11 About

Here is for you to view basic system information. See Figure 7-49.

Figure 7-49

7.7.12 Mail (Applies for 16-ch Only)

In the assistant setup, select email function. You can see the interface is shown as in Figure 7-50.

Here you can input server IP, receiver, email title and etc.

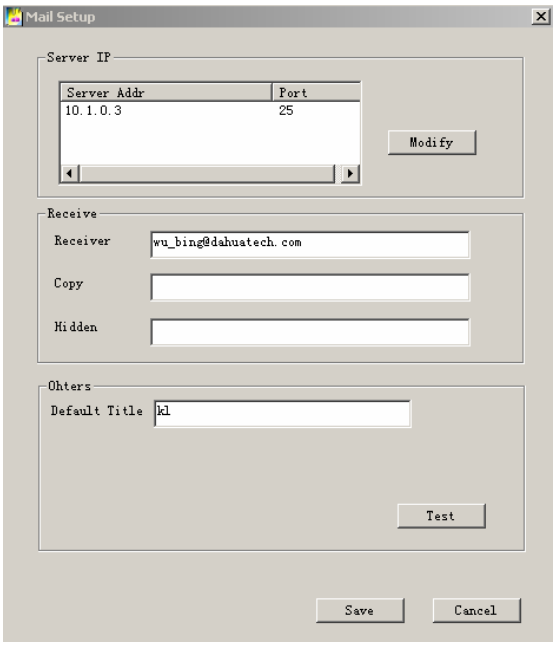


Figure 7-50

Now you can set alarm information for future upload.
For motion detection, you can enable email function in detection interface.
For external alarm, you can enable email function in alarm setup interface.
See Figure 7-51.

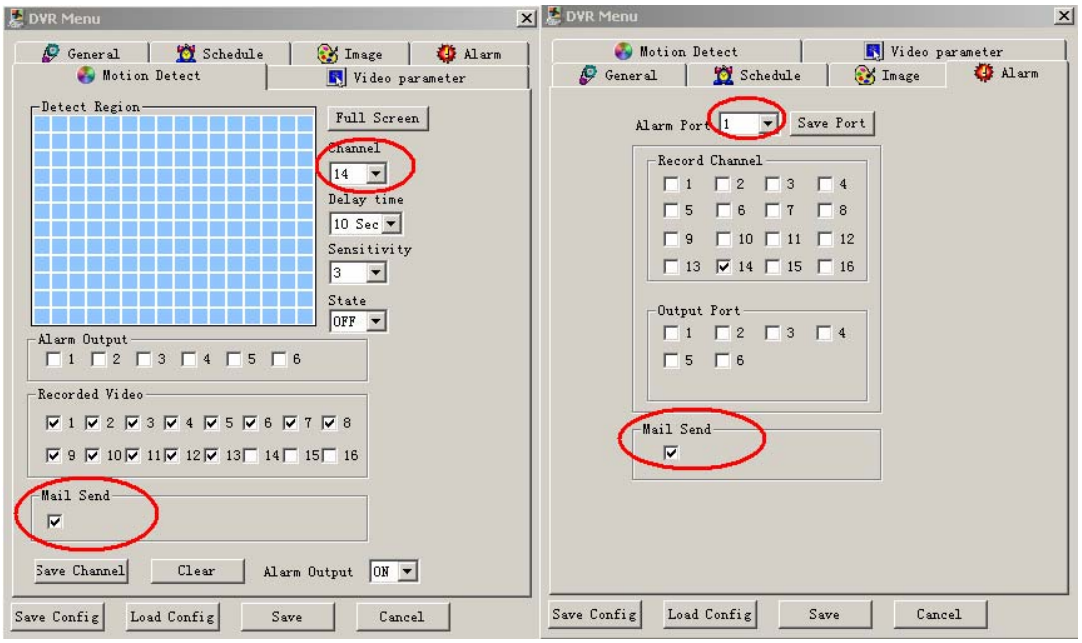


Figure 7-51

After setup, you can receive email form client end.
The email content is shown as below:

Alarm Matter: Email Test...

AlarmIn Channel: 255

Alarm Start Date(Day/Month/Year Hour:Minute:Second): 12/12/2006 16:30:20

Alarm Device Name: localhost

Mail_Sender IP : 10.6.3.8

In motion detection mode, you can set email function (Enable/disable) for each channel.

The email content is shown as below.

Alarm Matter: Motion Detect

AlarmIn Channel: 2

Alarm Start Date(Day/Month/Year Hour:Minute:Second): 12/12/2006 15:5:36

Alarm Device Name: localhost

Mail_Sender IP : 10.6.3.9

7.8 Un-install Web Control

There are three ways for you to un-install web control.

- From start, click run and then input order regsvr32 -u WebRec.ocx.
- Use web un-install tool “uninstall web.bat” to un-install web control.

8 Pro Surveillance System

Professional surveillance system allows you to manage a lot of DVRs remotely.

8.1 Features

Professional surveillance system has the following features:

- Manage devices conveniently
- Support multiple-device connection, real-time surveillance and playback
- Device management, log review and user management
- PTZ control and device alarm, video record
- Support multiple-device upgrade simultaneously
- E-map and network backup support

8.2 Environment

We recommend the following configuration:

Hardware

- CPU P4 2.0G
- Display card: support hardware zoom such as ATI,TNT2 PRO. We recommend ATI9800 or above dual channel. 128M/128bit
- Network card: 100M

Software

- For client end we recommend Windows 2000 or Windows XP.

8.3 Overview

Multiple-client main window is shown as in Figure 8-1.

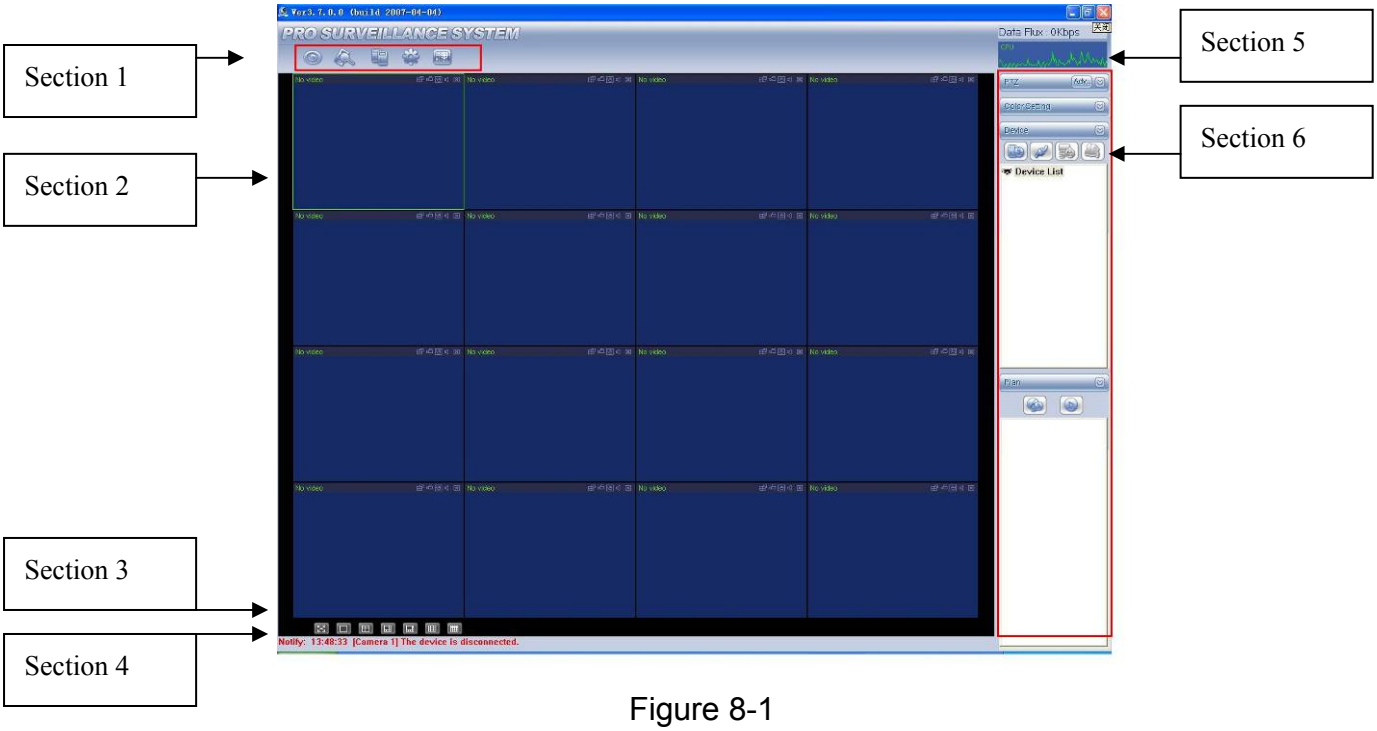


Figure 8-1

There are totally six sections:

- Section 1: There are five function keys: monitor, record, device, system and e-map. Please refer to chapter four for detailed information.

- Section 2: Here is for you to view channel video.
- Section 3: Here is for you to select display mode. System supports the following display modes: full-screen /single window/four-window/six-window/eight-window/nine-window/sixteen-window.
- Section 4: Here is for you to view current help information.
- Section 5: Here is to display data flux and CPU status.
- Section 6: There are four function buttons: PTZ/Color setting/Device/Plan. Please refer to chapter three for detailed information.

8.4 More Details

Please refer to the Professional Surveillance System User's Manual for more information.

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9 RS232 Operation

9.1 Network Connection

Before serial port operation, please connect matrix with DVR through RS232. Then set DVR serial port protocol to the corresponding matrix protocol.
Note: please contact you local retail to confirm the DVR supports matrix protocol or not.

9.2 Keyboard

Control keyboard is very convenient for multi-DVR control, menu options and PTZ control. Select **keyboard control** from system **setting＞RS232 ＞function, and then** set **concerning** attributes such as protocol. Connect DVR RS232 port to shifter 25-pin RS232 port and then set proper control addresses for all connected DVRs. Now you can input DVR control address and use keyboard keys to set menu or control PTZ. See Figure 9-1.
Note：The keyboard works only when ACT light is on.

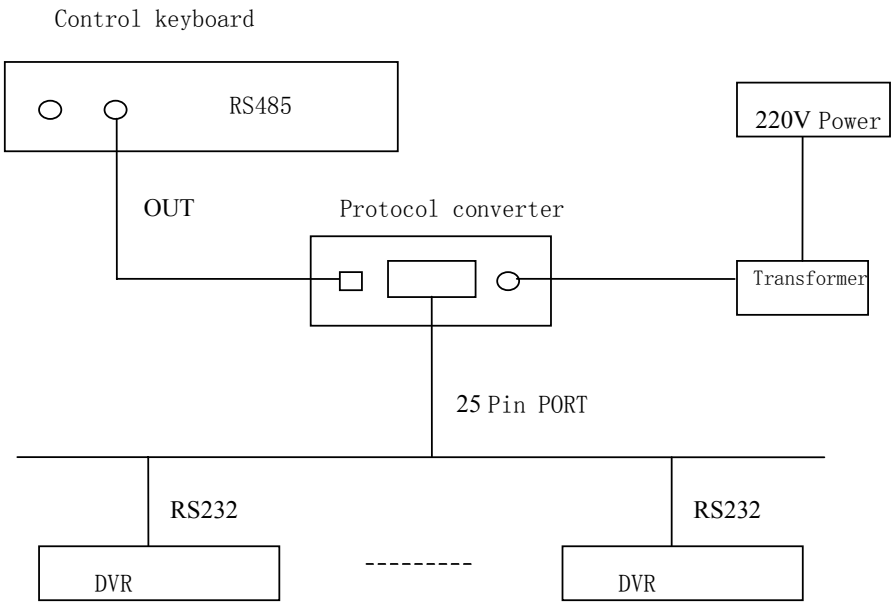

Figure 9-1

10 FAQ

1. This system can run in windows 98 or not?

Please install DIRECTX 7.0 or higher manually if you want to run this system in windows 98 environment.

2. System can not detect hard disk.

First check whether the hard disk is broken.

Then check jumper, IDE data cable and power cord. Please make sure they are appropriately connected.

When only one hard disk is connected to an IDE interface, this hard disk has to be jumped to master disc.

3. I can not use schedule recording function.

Please note the recording time unit takes one day as a working unit. E.g.: from 0 o'clock to 24 o'clock.

4. Recording light is flashing during the whole recording procedure.

Check the external video input signal. Such phenomena usually happen when the inputting signal is not standard.

Sometimes reading speed of HD is too slow, this phenomenon occurs. In this situation, you need to change hard disk.

5. My DVR is very hot, is there any problem?

DVR running procedures will generate a considerable hot. It is a normal phenomenon.

Please note DVR installation environment should be dry and clean. Keep ventilation openings smooth. Otherwise it will reduce system stability and lifelong

6. I can not see video signal on one channel while the other channels are ok

Check the video cable connection. You can connect camera video cable directly to monitor to test. If there is still no signal, there may be a problem with camera or video cable. If there is a video signal please contact your local suppliers for help.

7.I can not use my remote controller.

Check ACT light on the front panel is on or not.

- ATC light is on:

You need to change you remote controller battery.

- Act light is off:

Please move remote controller directly to the DVR, and then press address button. System pops up address input dialogue box. Please input you remote address (default value is 008). When act light is on, you can use it now

8.I can not control PTZ or dome

Check connection is right or not

Check system setup. Please refer to 5.3.8 pan-tilt setup.

Protocol should conform to dome (PTZ) setup.

Protocol is matched or not. You can contact you local supplier for more information

9. I can not login via web

There are two conditions:

- Network connection failure

Check your DVR and PC connection is right or nor. Please check DVR IP, network cable or use order ping to check.

- Invalid password or username

10. At the first beginning, the surveillance video is poor when I connected to server.

If the image can return to normal in five seconds, this phenomena is normal

12. What peripheral equipment DVR can work with?

DVR supports much peripheral equipment such as keyboard、matrix、 control decode card.、alarm input and output equipment、 alarm server and access control system.

Slight difference may be found in user interface.

All the designs and software here are subject to change without prior written notice.

Please visit our website for more information.

Appendix A HDD Capacity Calculation

Calculate total capacity needed by each DVR according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \quad (1)$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \quad (2)$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the DVR during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \quad (3)$$

In the formula: c means total number of channels in one DVR

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in DVR during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \quad (4)$$

In the formula：*a%* means alarm occurrence rate

Appendix B Compatible USB Drive List

NOTE: Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. If you use the USB drive, please confirm the format FAT or FAT32.

Manufacturer	Model	Capacity
Sandisk	Cruzer Micro	512M
Sandisk	Cruzer Micro	1G
Sandisk	Cruzer Micro	2G
Sandisk	Cruzer Freedom	256M
Sandisk	Cruzer Freedom	512M
Sandisk	Cruzer Freedom	1G
Sandisk	Cruzer Freedom	2G
Kingston	DataTraveler II	1G
Kingston	DataTraveler II	2G
Kingston	DataTraveler	1G
Kingston	DataTraveler	2G
Maxell	USB Flash Stick	128M
Maxell	USB Flash Stick	256M
Maxell	USB Flash Stick	512M
Maxell	USB Flash Stick	1G
Maxell	USB Flash Stick	2G
Kingax	Super Stick	128M
Kingax	Super Stick	256M
Kingax	Super Stick	512M
Kingax	Super Stick	1G
Kingax	Super Stick	2G
Netac	U210	128M
Netac	U210	256M
Netac	U210	512M
Netac	U210	1G
Netac	U210	2G
Teclast	Ti Cool	128M
Teclast	Ti Cool	256M
Teclast	Ti Cool	512M
Teclast	Ti Cool	1G
Teclast	Ti Cool	2G

Appendix C Compatible CD/DVD Burner List

NOTE: Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. And you can use the USB cable with the model recommended to set USB burner.

Manufacturer	Model	Interface	Type
Sony	DRU-835A	IDE	DVD-RW
Sony	DW-Q120A	IDE	DVD-RW
Sony	DW-G120A	IDE	DVD-RW
Sony	CRX-230AE	IDE	CD-RW
Sony	CRX-320A	IDE	CD-RW
Sony	CRX-225E	IDE	CD-RW
BenQ	DW2000	IDE	DVD-RW
BenQ	DW1670	IDE	DVD-RW
BenQ	DW1650	IDE	DVD-RW
BenQ	DW1640	IDE	DVD-RW
BenQ	5232W	IDE	CD-RW
Samsung	TS-H652M	IDE	DVD-RW
Sony	AW-G170S	SATA	DVD-RW
Samsung	TS-H653A	SATA	DVD-RW
Panasonic	SW-9588-C	SATA	DVD-RW
Sony	DRX-S50U	USB	DVD-RW
BenQ	5232WI	USB	DVD-RW

Appendix D Compatible IDE HDD List

NOTE: Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. And IDE HDD should be used for the DVR with IDE port.

Manufacturer	Series	Model	Capacity	Type
Seagate	Barracuda.10	ST3750640A	750G	IDE
Seagate	Barracuda.10	ST3500630A	500G	IDE
Seagate	Barracuda.10	ST3400620A	400G	IDE
Seagate	Barracuda.10	ST3320620A	320G	IDE
Seagate	Barracuda.10	ST3250620A	250G	IDE
Seagate	Barracuda.10	ST3250820A	250G	IDE
Seagate	Barracuda.10	ST3160815A	160G	IDE
Seagate	Barracuda.10	ST3160215A	160G	IDE
Seagate	Barracuda.10	ST380215A	80G	IDE
Seagate	Barracuda.9	ST3160812A	160G	IDE
Seagate	Barracuda.9	ST3160212A	160G	IDE
Seagate	Barracuda.9	ST3120814A	120G	IDE
Seagate	Barracuda.9	ST3120213A	120G	IDE
Seagate	Barracuda.9	ST3802110A	80G	IDE
Maxtor	DiamondMax 20	STM3320820A	320G	IDE
Maxtor	DiamondMax 20	STM3250820A	250G	IDE
Maxtor	DiamondMax 21	STM3160212A	160G	IDE
Maxtor	DiamondMax 21	STM380211A	80G	IDE
Maxtor	DiamondMax 21	STM3402111A	40G	IDE
Western Digital	Cariar SE	WD3200JB	320G	IDE
Western Digital	Cariar SE	WD3000JB	300G	IDE
Western Digital	Cariar SE	WD2500JB	250G	IDE
Western Digital	Cariar SE	WD2000JB	200G	IDE
Western Digital	Cariar SE	WD1600JB	160G	IDE
Western Digital	Cariar SE	WD1200JB	120G	IDE
Western Digital	Cariar SE	WD800JB	80G	IDE

Appendix E Compatible SATA HDD List

NOTE: Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. And SATA HDD should be used for the DVR with SATA port.

Manufacturer	Series	Model	Capacity	Type
Seagate	Barracuda.10	ST3750640AS	750G	SATA
Seagate	Barracuda.10	ST3500630AS	500G	SATA
Seagate	Barracuda.10	ST3400620AS	400G	SATA
Seagate	Barracuda.10	ST3320620AS	320G	SATA
Seagate	Barracuda.10	ST3250620AS	250G	SATA
Seagate	Barracuda.10	ST3250820AS	250G	SATA
Seagate	Barracuda.10	ST3160815AS	160G	SATA
Seagate	Barracuda.10	ST380815AS	80G	SATA
Seagate	Barracuda.9	ST3160811AS2	160G	SATA
Seagate	Barracuda.9	ST3120811AS2	120G	SATA
Seagate	Barracuda.9	ST380811AS2	80	SATA
Seagate	Barracuda.9	ST380211AS2	80G	SATA
Seagate	Barracuda.11	ST3750330AS	750G	SATA
Seagate	Barracuda.11	ST3500320AS	500G	SATA
Maxtor	DiamondMax 20	STM3320820AS	320G	SATA
Maxtor	DiamondMax 20	STM3250820AS	250G	SATA
Maxtor	DiamondMax 21	STM3160211AS	160G	SATA
Maxtor	DiamondMax 21	STM380211AS	80G	SATA
Maxtor	DiamondMax 21	STM340211AS	40G	SATA
Western Digital	Cariar SE	WD3200JD	320G	SATA
Western Digital	Cariar SE	WD3000JD	300G	SATA
Western Digital	Cariar SE	WD2500JS	250G	SATA
Western Digital	Cariar SE	WD2000JD	200G	SATA
Western Digital	Cariar SE	WD1600JD	160G	SATA
Western Digital	Cariar SE	WD1600JS	160G	SATA
Western Digital	Cariar SE	WD1200JS	120G	SATA
Western Digital	Cariar SE	WD800JD	80G	SATA
Western Digital	Cariar	WD1600AABS2	160G	SATA
Western Digital	Cariar	WD800BD	80G	SATA
Western Digital	Cariar SE16	WD7500KS2	750G	SATA
Western Digital	Cariar SE16	WD5000KS2	500G	SATA
Western Digital	Cariar SE16	WD4000KD2	400G	SATA
Western Digital	Cariar SE16	WD3200KS2	320G	SATA
Western Digital	Cariar SE16	WD2500KS2	250G	SATA